SOAP

SANITARY CHEMICALS

NEW!

A NEW YEAR brings new headquarters for Ungerer & Co., in the Butterick Bldg. Here, we have devised a new ease of operation in which all of our departments and service laboratories are more closely geared together to secure a new working efficiency.

Our succession of new solutions to new odor problems is making a host of new friends for us. We would welcome you to their number. Perhaps you are beset with new odor problems right now. If so, don't suffer any more. Make a new resolve.

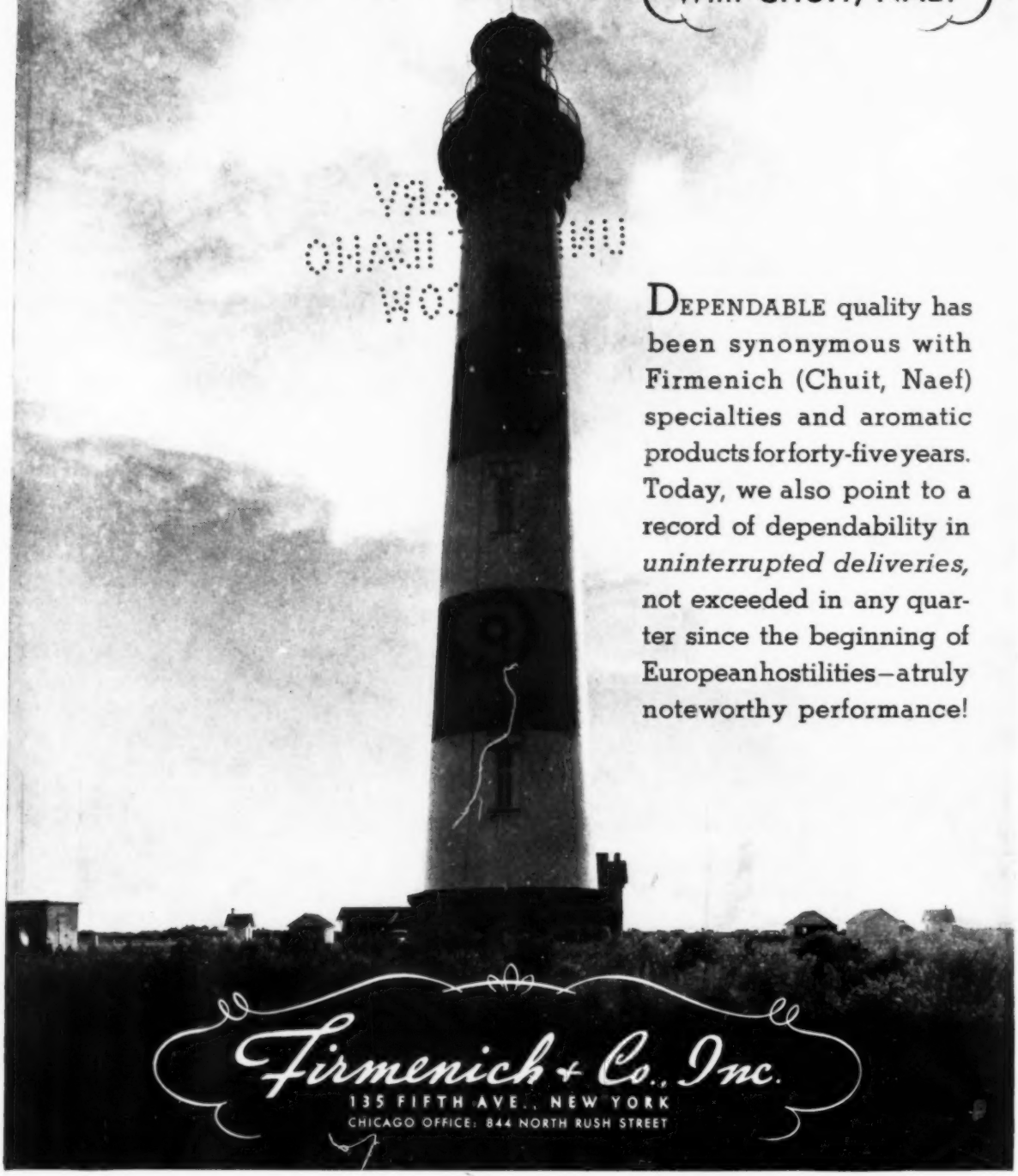
Merely, call on

UNGERER & CO.

161 SIXTH AVE. NEW YORK

Dependability...

With CHUIT, NAEF



DEPENDABLE quality has been synonymous with Firmenich (Chuit, Naef) specialties and aromatic products for forty-five years. Today, we also point to a record of dependability in *uninterrupted deliveries,* not exceeded in any quarter since the beginning of European hostilities—a truly noteworthy performance!

Firmenich + Co., Inc.

135 FIFTH AVE., NEW YORK

CHICAGO OFFICE: 844 NORTH RUSH STREET

"NO SOAP FOR ME!"

That's all very well, Mr. Cat . . . YOU may be able to lick yourself clean. But humans . . . well, they're different. Their society would frown upon such actions.

No Sir, human beings need soap . . . and they insist upon GOOD soap! That's why Fuld Bros.' liquid soaps, year after year, command preference in hospitals, factories, homes and office buildings throughout the country. That's why jobbers and consumers alike sing the praises of soaps and sanitary chemicals manufactured by Fuld Bros.

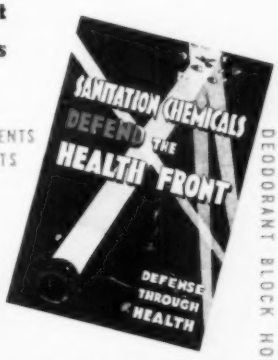
Give your customers what they want . . . give them the finest! You'll reap the profits of increased repeat business that only Fuld Bros. superior products can bring!

LIQUID SOAPS • FLOOR SEALS • FLOOR TREATMENTS
DEODORANT BLOCKS • LIQUID DEODORANTS

WE SELL JOBBERS ONLY!

FULD BROS.

WE MAKE IT FOR THE LEADERS



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Baltimore, Maryland

SALES OFFICES
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KANSAS CITY • BOSTON
BROOKLYN

WEST COAST PLANT
2444 EAST 8th STREET
LOS ANGELES, CALIFORNIA

PLUMBING SPECIALTIES • SPECIAL CLEANERS
DEODORANT BLOCK HOLDERS • SOAP DISPENSERS

SELF-POLISHING WAXES • POWDERED WAXES • OIL SOAPS • LIQUID CLEANERS
DISINFECTANTS • INSECTICIDES • METAL POLISHES • FURNITURE POLISHES

A "Stopper" FOR SHOPPERS

COLOR makes your product Easy to See.

COLOR makes your product Easy to Remember.

COLOR inspires confidence in its Quality.

COLOR helps insure Repeat Sales.

COLOR gives a Distinctive Appearance.

COLOR gives your product Better Display.

COLOR makes your product Smart—Modern.

COLOR advertises your product in the home.

COLO

COl

COl

COl

RICH, ROYAL MARYLAND BLUE stops the eye and starts the sale. Dealers like Maryland Blue because of its colorful display value . . . Consumers like Maryland Blue because it makes their favorite product easy to identify, easy to remember . . . *You* will like Maryland Blue because it high-lights your product to build sales.

Distinctive BOTTLES AND JARS

MARYLAND BLUE

MARYLAND GLASS CORPORATION, BALTIMORE, MD. . . New York: 270 Broadway . . Chicago: Berman Bros., 1501 S. Laflin St. . . St. Louis: H. A. Baumstark, 911 Locust Street . . Memphis: S. Walter Scott, 435 S. Front St. . . Kansas City, Mo.: Aller Todd, 1224 Union Avenue . . Cincinnati: J. E. McLaughlin, 401 Lock St. . . San Francisco: Owens-Illinois Pacific Coast Co.

Volume XVIII Number 1

SOAP and SANITARY CHEMICALS

Reg. U. S. Pat. Office

JANUARY
1942

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Published by

MAC NAIR-DORLAND COMPANY, INC.
254 WEST 31st STREET NEW YORK, N. Y.

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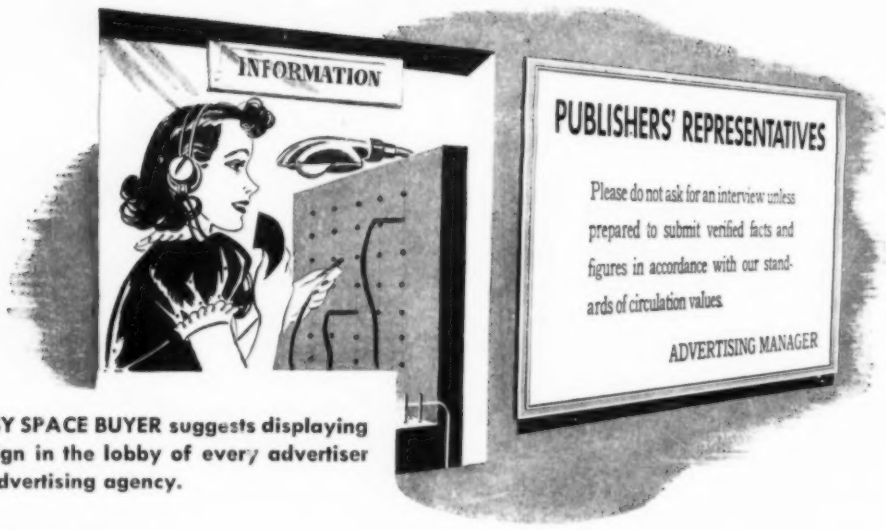

INFORMATION
PUBLISHERS' REPRESENTATIVES
Please do not ask for an interview unless prepared to submit verified facts and figures in accordance with our standards of circulation values.
ADVERTISING MANAGER

A BUSY SPACE BUYER suggests displaying this sign in the lobby of every advertiser and advertising agency.

Well—why not?

THE days of blind space buying are over. To ask an advertiser to select media on the basis of unsupported facts and figures is like asking him to sign a blank check.

Today advertisers have definite standards for circulation values. They want to know, by these standards, how much circulation a publication has, where it goes, how it was obtained, how much the readers paid and many other facts that bear on the advertising value of a business paper. With these facts, verified, advertisers can select media intelligently and buy space with assurance that they will get what they pay for.

To cooperate with advertisers and tell our circulation story by their own standards we belong to the Audit Bureau of Circulations, a cooperative organization of advertisers, advertising agencies and publishers. Our A. B. C. report giving complete and audited information about our circulation is the advertisers' assurance that their advertising investments are protected by known, verified values.

A. B. C. PROTECTS YOUR ADVERTISING

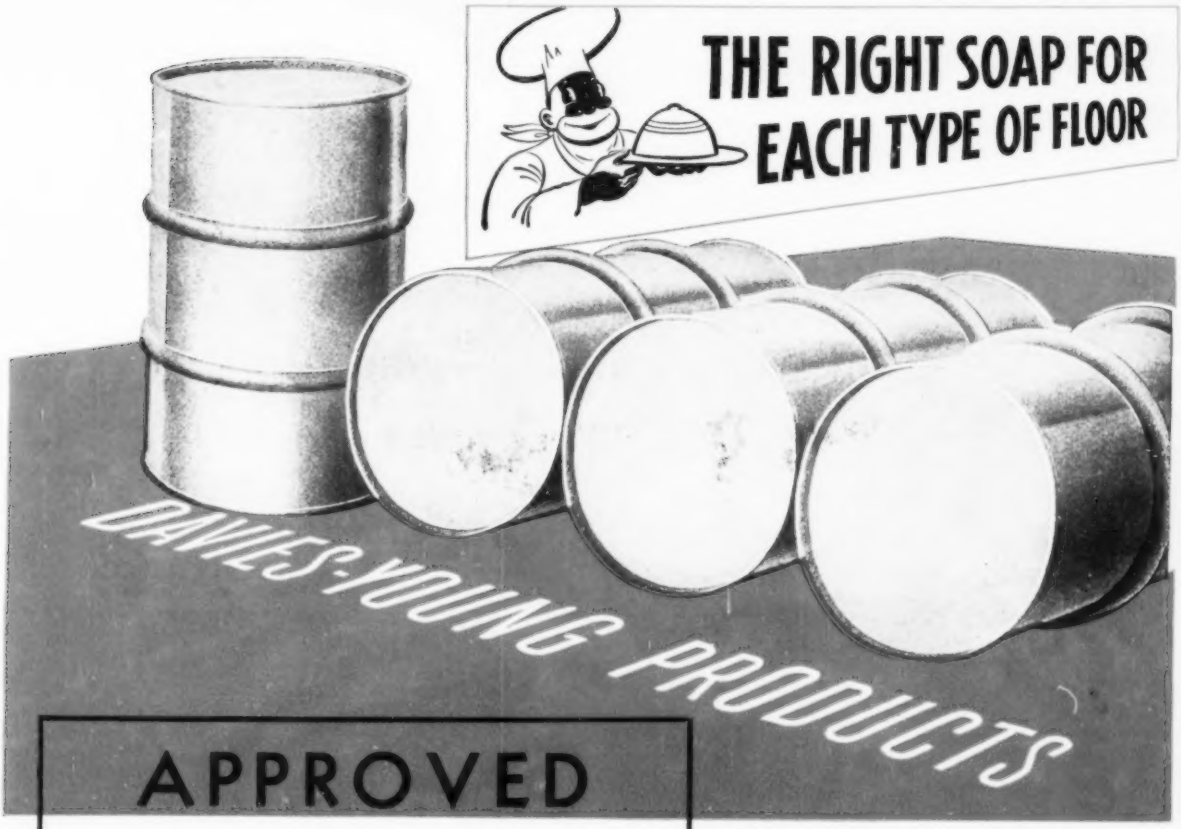
Paid subscriptions, renewals, evidence of reader interest, are among many facts in A. B. C. reports that are definite guides to effective media selection. When you buy space in A. B. C. publications your advertising is safeguarded by audited circulation. Always ask for A. B. C. reports.

SOAP *and Sanitary Chemicals*

254 WEST 31st STREET NEW YORK

Member of the Audit Bureau of Circulations ABC *Ask for a copy of our latest A.B.C. report*

A.B.C. = AUDIT BUREAU OF CIRCULATIONS = **FACTS** AS A MEASURE OF CIRCULATION VALUES



APPROVED

By The Rubber Manufacturers' Association, Inc.

"BUCKEYE" PLAIN LIQUID FLOOR SOAP
"BUCKEYE" SASSAFRAS LIQUID FLOOR SOAP
"BUCKEYE" WAX CLEANER
"BUCKEYE" SPECIAL RUBBER CLEANER

will again appear in the list of approved cleaners issued by The Rubber Manufacturers' Association, Inc.

It's good service to sell the right cleaner for the right surface. Different types of floors require different cleaners for proper, economical maintenance. Davies-Young soaps are each specifically compounded for certain types of floors. In addition to the four products listed at left, Davies-Young Floor Soaps include

"EX-ALK" Liquid Cleaner (controls alkalinity)
"SANI-SCRUB" Liquid Soap
"FLOREX" Liquid Detergent.

We will be glad to suggest recommendations for particular kinds of floors.

THE DAVIES-YOUNG SOAP COMPANY
DAYTON • OHIO

THE DAVIES-YOUNG SOAP CO.
Dayton, Ohio
Please send us samples, descriptions and prices of Liquid Floor Soaps.

Name .....
Address .....
City and State .....

AMERICA'S OWN VALENCIA PUMICE

It's the first American pumice offered in competition to Italian grades. Thoroughly established for America's industrial market prior to the present world conflict, it will remain an American product after the war is over.
VALENCIA PUMICE is mined by blasting. The strong grain particles is your assurance of high quality. There's a grade for every industrial use.

Valencia Pumice
REG. U. S. PAT. OFF.

Available stocks in all principal cities

An aerial view showing the four story grinding and sizing plant with a production capacity of five tons per hour. Is capable of furnishing seven different grades of pumice at one time.
In the background at the left is the VALENCIA PUMICE deposit and at the right, fifteen miles away is Mt. Taylor.

Geologists have traced the origin of our deposits to Mt. Taylor. The available supply of this superior grade pumice is virtually inexhaustible.

Let us solve your pumice requirements. For your protection now and in the future, adopt VALENCIA PUMICE as your standard.

PUMICE CORPORATION OF AMERICA

GRANTS, NEW MEXICO, U. S. A.

DISTRIBUTED BY:

WHITTAKER, CLARK & DANIELS, INC. • 260 WEST BROADWAY • NEW YORK CITY

WAREHOUSES: DETROIT, MICHIGAN *and* SOUTH KEARNEY, N. J.

2968

What's SUPER-WAX got that ordinary wax hasn't?

HIGHER GLOSS *for one thing—*
LESS SLIP *for another—*

It's one thing to say that a wax has *higher gloss* and *less slip*. It's something different when you lay SUPER-WAX down next to other waxes—and PROVE it *on the buyer's own floor*.

In crowded corridors, next to open doors, during rush hours, wet weather—after dozens of scrubbings —SUPER-WAX stays *clear*, glossy, foot-safe and *cleaner* between applications. No flaking, no scale, milk or smear.

SUPER-WAX is specified for every type of floor because it is free from alkali. On asphalt tile it notably increases foot safety. On *all* floors its spread and self-leveling qualities endear SUPER-WAX to the man who applies it.

Chances are SUPER-WAX will perform as spectacularly against your present favorite wax as it does against competitive wax. We suggest you send today for a five-gallon trial pail and see for yourself.

SHEDS WATER LIKE A DUCK!

Yet, SUPER-WAX is quickly removed by any approved wax remover, like our HYSOLENE.

KEEPS FLOORS BRIGHTER, SAFER —LONGER

PREMIUM QUALITY AT A POPULAR PRICE

MADE FROM No. 1 YELLOW PRIME CARNAUBA

HYSAN

HYSAN PRODUCTS COMPANY
Manufacturing Chemists
58 EAST CULLERTON ST. • CHICAGO, ILL.

DISINFECTANTS • CLEANING MATERIALS • DEODORANTS • POLISHES • FLOOR TREATMENTS • DRAIN PIPE SOLVENTS
SOAPS • DISH WASHING COMPOUNDS • INSECTICIDES • SOAP DISPENSERS

MORE IMPORTANT THAN EVER . . .

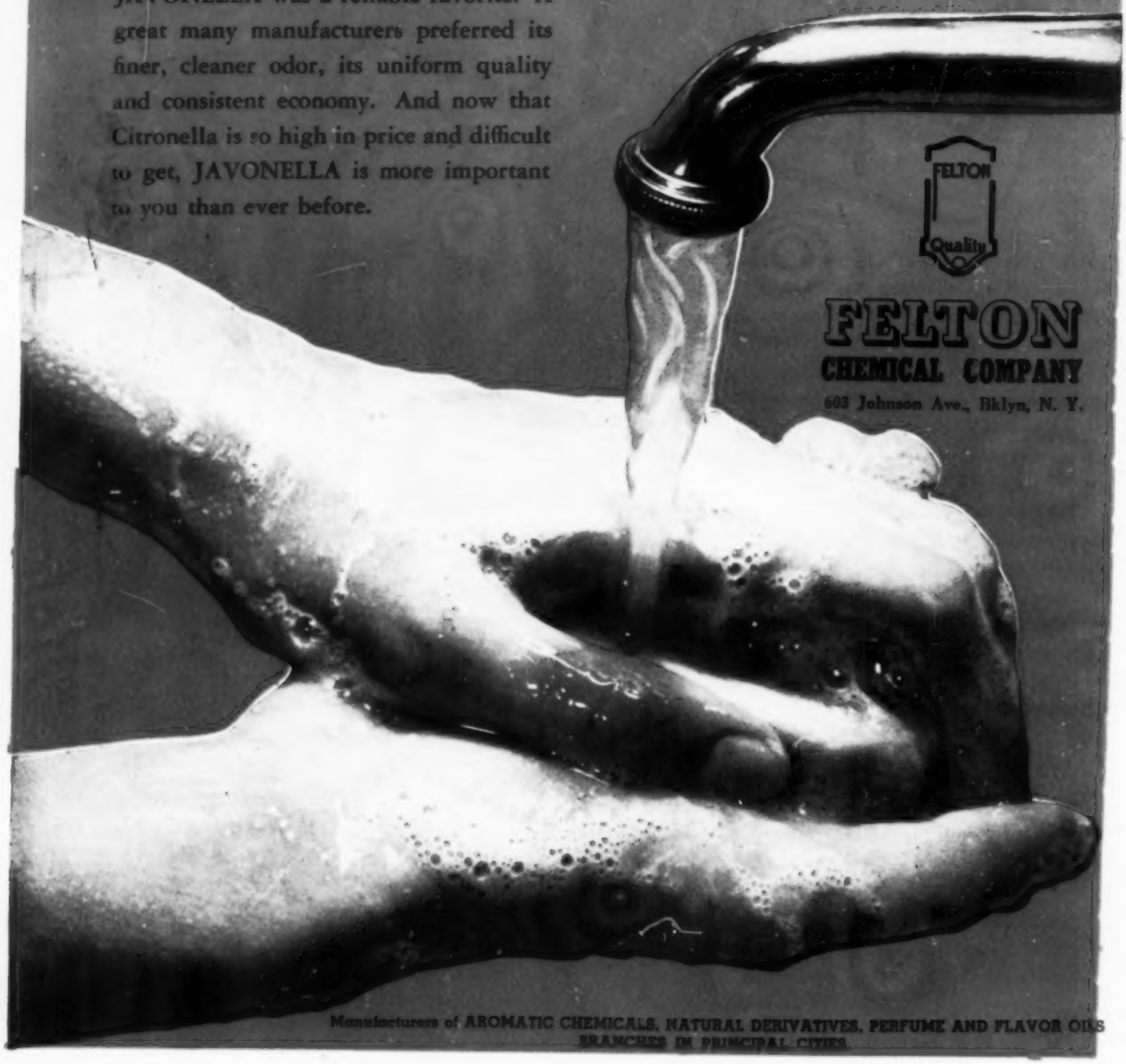
Javonella

PERFECT FOR PERFUMING

★ Laundry Soaps ★ Washing Powders ★ Liquid Cleansers ★ Polishes, etc.

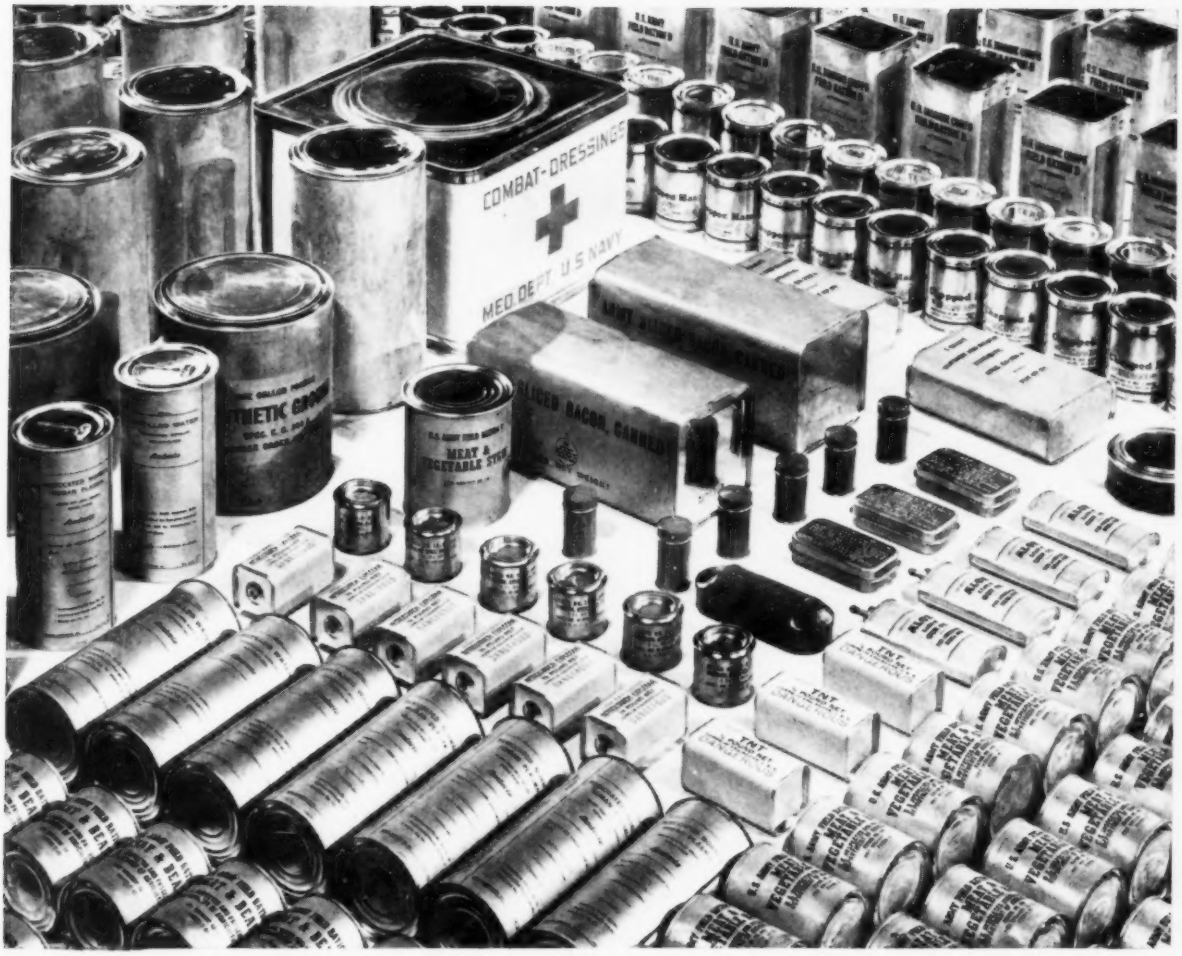
EVEN when oil of citronella was low in price and easy to obtain, JAVONELLA was a reliable favorite. A great many manufacturers preferred its finer, cleaner odor, its uniform quality and consistent economy. And now that Citronella is so high in price and difficult to get, JAVONELLA is more important to you than ever before.

WRITE FOR SAMPLES AND QUOTATIONS



FELTON
CHEMICAL COMPANY
603 Johnson Ave., Bklyn, N. Y.

Manufacturers of AROMATIC CHEMICALS, NATURAL DERIVATIVES, PERFUME AND FLAVOR OILS
BRANCHES IN PRINCIPAL CITIES



SOME "NON-SECRET" WEAPONS THE AXIS WOULD LIKE TO HAVE

Study the Labels on the cans and packages in the picture above.

On some of them, you'll notice "Army Sliced Bacon, Canned . . . U. S. Marine Corps Field Ration D . . . U. S. Army Meat and Vegetable Hash . . . TNT Dangerous, Corps of Engineers."

There's a container for dried human blood in the picture, too. For transfusions in the field. Another to house a delicate motor on anti-aircraft guns.

And while you'll be interested to know that these articles are some of the many defense items the containers for which are made by the can-making and packaging industries, their significance goes far beyond this simple fact.

For they are weapons. "Non-secret" weapons, if you will. And every country has them. *But the Axis would like to have ours.* Do you realize why?

The industrial resources that produced these "non-secret" weapons are the largest in the world. The Axis needs those resources.

It needs the men . . . the machinery . . . the skill . . . the research that make the quality and the quantity of these weapons possible. It needs the energy of the free, unregimented economy which produced these weapons.

We Americans can congratulate ourselves that the Axis hasn't these resources . . . that we—not the Axis—have built the greatest packaging and can-making industries in the world . . . that we are now using the sinews of these industries to resist aggression. American Can Company, 230 Park Avenue, New York, N. Y.

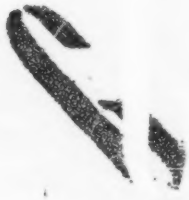
GOOD BLENDIN

MEANS GOOD BUSINESS

The right selection and arrangement of colors and fabrics to achieve pleasing, harmonious effects in clothes are the keys to success in fashion styling. Skill and knowledge are vitally essential. Vitally essential, too, are skill and knowledge in the selection and arrangement of odors and ingredients for pleasing, harmonious perfume effects for soaps and kindred toiletries.

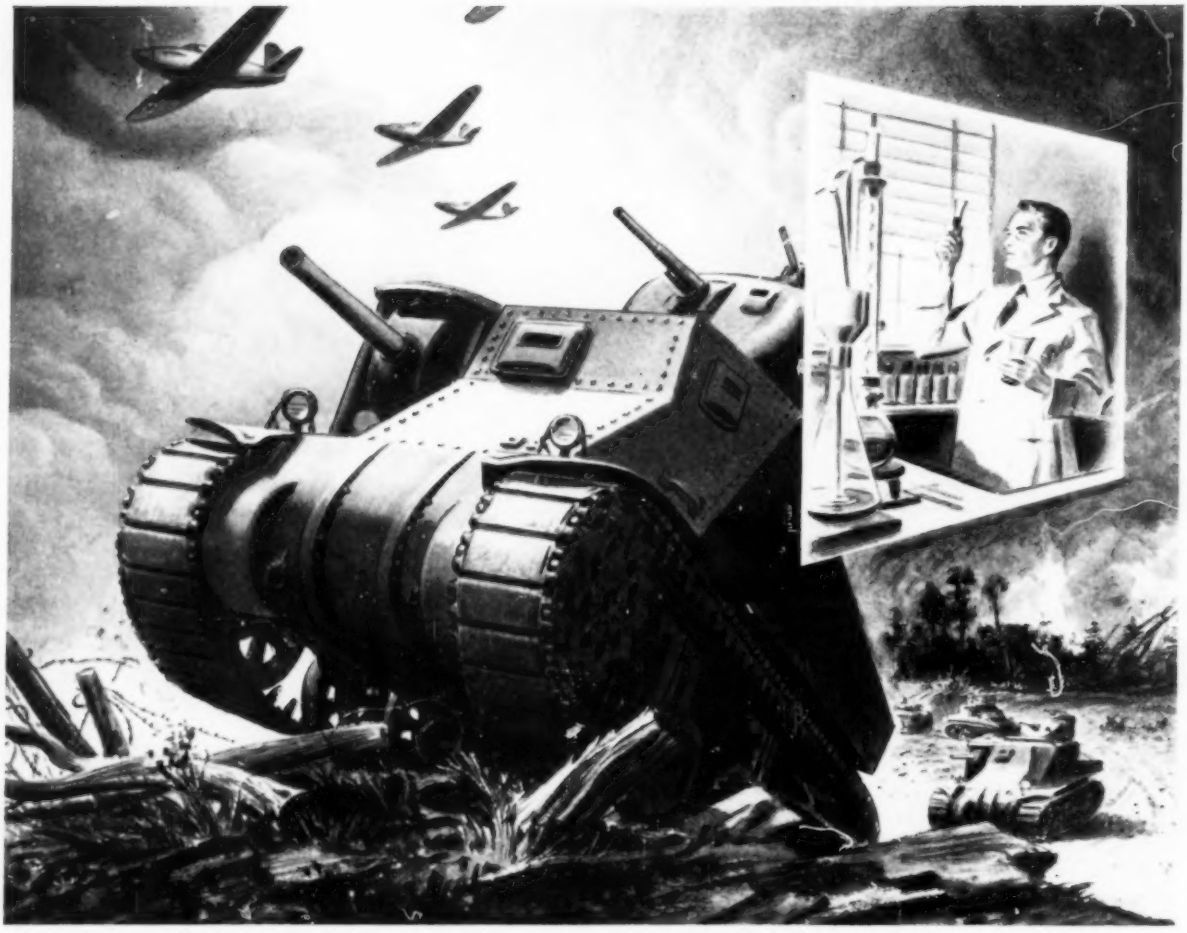
Those manufacturers of soaps and toiletries who have turned their odor problems over to Givaudan chemists have learned to rely on Givaudan experience. They know that Givaudan chemists have a thorough understanding of odors and how they should be used to achieve the right effects, at an economical cost. They know, too, that Givaudan's staff understands consumer trends, is equipped with the materials, the facilities and the specialized ability to develop new and unusual products to meet popular demands. Many of the best known names in the cosmetic world depend upon Givaudan cooperation to obtain the exact results they are seeking to reach wider markets.

If you are seeking special odors for special purposes, Givaudan can develop them for you. If you can use ready-made odors, Givaudan has a long and varied range to select from. If you are in need of specialties that can be used to perfume an entire line of companion products, you will find the Givaudan materials highly effective, and, at the same time, economical. Write today for samples, prices and further information.



GIVAUDAN-DELAWANNA, INC.

330 WEST 42ND STREET, NEW YORK, N. Y.



DEFENSE MUST BEGIN SOMEWHERE

• Defense, like every other dynamic force, has a beginning — a center at which energy is generated.

In the execution of modern warfare there is no activity so basic as the work of a chemical laboratory.

Chemistry is the beginning of the business of transforming raw materials into explosives, into planes, into ships, into trucks, and into tanks.

Michigan Alkali Company manufactures many products used in our war effort. Chlorine and chlorine derivatives are being used for smoke screens, anti-freeze, high-octane-rating gasoline, wire insulation, synthetic rubber, plastics, paper and many other vital products used by our armed forces and those of our allies.

Soda Ash is used in the manufacture of aluminum, glass, steel, textiles, leather and explosives.

Caustic Soda has an important function in the processing of gun cotton and textiles.

Many other Michigan Alkali Products also aid America daily in producing materials needed by the free peoples of the world.

MICHIGAN ALKALI COMPANY

FORD BUILDING • DETROIT, MICHIGAN

NEW YORK • CHICAGO • CINCINNATI • ST. LOUIS • CHARLOTTE • WYANDOTTE

DISTRIBUTORS IN ALL PRINCIPAL CITIES

MANUFACTURERS: SODA ASH • CAUSTIC SODA • BICARBONATE OF SODA • CHLORINE • CALCIUM CARBONATE • DRY ICE

WITH BUT ONE PURPOSE

Our first and only job now is to win the war. The effort of every American should be directed to that accomplishment. If van Ameringen-Haebler, Inc. can best serve this purpose by the continuation of our normal business, we shall do that to the best of our ability. If we find that we can serve our country better by devoting the facilities of our plants and laboratories to defense production we are ready and eager to do so as quickly as possible.

VAN AMERINGEN-HAEBLER, INC.

315 FOURTH AVE. • NEW YORK CITY

A practical book on Soap Manufacture...

"MODERN SOAP MAKING"

By Dr. E. G. Thomssen and C. R. Kemp

Here is what the authors say about their own book in the foreword:

"Above all, this book is designed as a practical volume for the practical soapmaker. Its compilation is based on twenty years of actual experience in the soap plant by the authors. Little attention is given to the theories of saponification or detergency. The emphasis is all on the practical handling and refining of raw materials, kettle practice, and other operations in the modern soap factory."

A practical 540 page book on raw mterials, manufacture and testing of

TOILET SOAPS	LAUNDRY SOAPS	SHAVING SOAPS
MEDICATED SOAPS	SOAP POWDERS	SHAMPOOS
ANIMAL SOAPS	SCOURING POWDERS	LIQUID SOAPS
FLOATING SOAPS	SOAP CHIPS	SALT WATER SOAPS
TEXTILE SOAPS	DRY CLEANING SOAPS	FLOOR SCRUB SOAPS
NAPHTHA SOAPS	INSECTICIDE SOAPS	POWDERED SOAPS
GLYCERINE	FATTY ACIDS	SULFONATED OILS

AND OTHER DETERGENT AND ALLIED PRODUCTS

$7.50 postpaid in the U. S. A.
(Foreign postage 50c extra.)

MAC NAIR-DORLAND COMPANY

254 W. 31st Street *Publishers* **New York**

Norda

Scarcity of floral oils . . .

Present dwindling supplies of natural floral essences emphasize the value of high quality substitutes.

Synthetic floral essences can be used to replace the natural oils with full satisfaction and marked success in numerous products,—toilet soaps, shampoos, shaving creams, powders, creams, and many others.

In fact, in many products the newer synthetic floral essences are to be *preferred* for the manner in which they reproduce the true fragrance of the living flowers in the finished product,—not to mention uniformity of quality and odor fidelity, and their economy under present conditions.

Let us tell you more about these newer substitutes as an answer to the growing scarcity of natural floral oils.

NORDA Essential Oil and Chemical Co., Inc.

Chicago Office
325 W. Huron St.

Los Angeles Office
2800 E. 11th Street

St. Paul Office
253 E. 4th St.

Toronto Office
119 Adelaide St., W.

New York Office
601 West 26th St.

Montreal Office
135 Commissioners St., W.

"....quiet please!"

STOP THAT *BANG, BANG, BANG* OF WORN-OUT SOAP PRESSES...

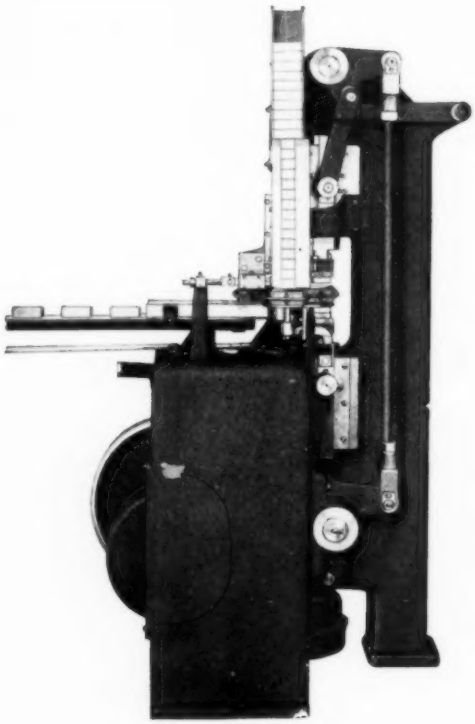
...before your factory walls are shaken loose from their moorings and your nerves drive you,—and your men,—haywire. Soap pressing now need not be a crash-bang affair. Noise and vibration will be conspicuous by their complete absence, when your plant is equipped with

JONES

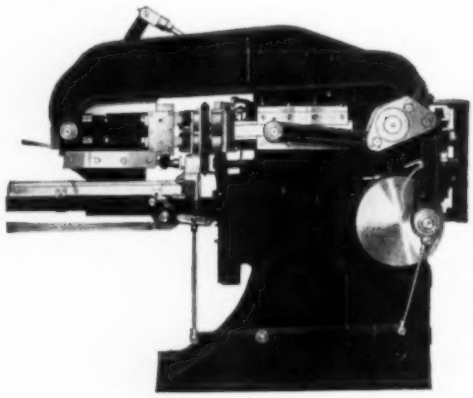
Toggle Operated

PRESSES

To put up with the noise, vibration, damaged dies, poor pressing, retarded production of worn soap presses is on a par with driving a rattling twenty-year-old automobile, with its poor and costly transportation.



Type ET Toilet Soap Press



Type K Laundry Soap Press

With new JONES Toggle Operated Presses, perfect pressing at lower cost is yours, plus greater output, no marred cakes, silence and contented operators.

Old presses are an expensive economy—why not replace them NOW with new JONES Toggle Presses.

R. A. JONES & COMPANY, Inc.

P. O. BOX 485 CINCINNATI, OHIO

The Standardized Constant Motion Cartoner packages, bottles, jars, tins, collapsible tubes and many other articles. It feeds, folds and inserts direction sheets and corrugated board liners with the loads

AS THE EDITOR SEES IT

WAR in the Pacific came sooner than most of us had expected, and with its coming, not only shocked the entire country, but threw a bomb into the very midst of the soap industry. As the Japanese forces continued to make progress in their campaign to reduce the Philippines, it left soap makers wondering what they would do for coconut oil if their principal source of supply was cut off. True, there are sources other than the Philippines which normally ship vast quantities of coconut oil, but in the past these stocks have always gone to other markets. On the basis of our present tax set-up, use of coconut oil originating other than in the Philippines carries with it a five cent rather than a three cent excise tax. Guarding against the possibility of loss of the Philippines, the soap industry might do well to appeal to Congress at once for a reduction in excise tax rates so that other sources may be drawn upon to build up our supplies. It should be a telling argument that coconut oil is so rich in glycerine, essential to much defense production.

Even taking the most optimistic view of the future outlook, and assuming that the Philippines will be held, a substantial reduction in arrivals of coconut oil must still be anticipated. The need of tankers for naval purposes will be greater than ever. The necessity of tankers to take the long southern route to west coast ports, rather than the straight route across the Pacific, and the endless delays and slow pace of convoys, may be expected further to reduce arrivals. Costs will be boosted by higher war-risk insurance, higher freight rates and the natural effects of shortage. How and where this will fit into the price ceiling situation on oils and fats is difficult to imagine.

The soap industry, we feel, should prepare at once for a shortage of coconut oil. Stocks should be conserved with utmost care and the percentage of coconut oil in all soaps cut to the irreducible minimum immediately. If later we find that supplies are coming through in larger quantities than anticipated, it will be a simple matter to reverse the process. But in the meantime, no coconut oil should be used where another oil or fat will do. We appreciate that there is no practical substitute for coconut oil in many soaps without ruining lathering properties, but to make present stocks go as far as possible, the old free, quick and foamy lather may have to be abandoned for a time.

So until the situation in the Pacific is more clearly defined and the soap industry knows just where it stands in the matter of coconut oil stocks, every soaper should treat his present stocks just as though he never expects to get another pound when they are gone.

GLYCERINE is said to be reaching the critical stage as far as ample supplies for war needs are concerned and will undoubtedly shortly be placed on the list of critical materials. In spite of the tremendous tonnage produced in the United States during 1941, far and away the largest production for any single year in American history, several steps are reported being planned in Washington to augment the supply for defense purposes.

That civilian uses for glycerine will be sharply curtailed over the next few months

appears to be obvious. But, it is believed that the OPM may go further than this even to the point of calling a halt on the manufacture of cold-made soaps. In short, the glycerine in all fats and oils destined for the soap kettle may be required to be split off, and we may have a soap industry depending to a greater extent on fatty acids, a situation similar to that which existed in Germany for several years before the war.

To curtail cold-made soaps would be of course another blow to the smaller soapers, who like small manufacturers everywhere appear to be taking the hardest blows where the defense program is involved. Those soapers having fat splitting facilities would naturally have a marked advantage. But irrespective of what happens, it is the unmistakable intent of the OPM to use every means in its power to boost glycerine output. An upward revision in ceiling prices might well be a part of such a program.

RECENTLY proposed changes in the specifications for U.S.P. Soft Soap as offered by the revision committee of the U. S. Pharmacopoeia, have brought forth some rather sharply divided opinions from leading manufacturers of potash soaps. Where the U.S.P. XI requires that soft soap shall be made wholly and exclusively from a linseed oil base, the proposed revision permits the use of corn oil, soya bean oil, and other vegetable oils in place of linseed.

Critics of the proposed new standard state with varying degrees of bluntness that such a change in the specification as it now stands is nothing more or less than letting down the bars, permitting inferior products to creep into the U.S.P. And why added glycerine, and oleic acid, they challenge? Others welcome the change as a means of giving the manufacturer greater leeway in his selection of raw materials, and as a step toward a better type of U.S.P. Soft Soap,—soap suitable for medicinal needs, but devoid of the unpleasant odor of linseed oil soaps and with less of a tendency toward rancidity.

Comments on both sides of this question are published elsewhere in this issue, and when we realize that they are all from manufacturers who know their soft soaps, the difficulty of a correct decision by the revision committee is apparent. Maybe the matter might be referred to a committee of soap experts not in the potash soap field. And then, maybe it shouldn't. In the meantime, the baby is right back in the lap of the revision committee from whence it came.

SOONER or later, we knew that it had to come, so when we read in the *New York Sun,* "Women Make Soap for Britain, —Salvage group of ambulance corps learn in Mrs. Stralem's kitchen,"—we were not as shocked or hurt as we might have been. This wave of pseudo-economy, this business of saving odd bits of paper, tinfoil, aluminum, and what-not ostensibly in the interest of our own defense or that of Britain, has at last reached the stage of saving fat drippings in the kitchen. This is not so bad, just saving the fat, but these lovely ladies,—in those ducky uniforms and nifty hats so that they look for all the world like female soldiers, —and making soap in their kitchens from this fat. For their own use? Not a bit of it. They are making it to be shipped to Britain!

What, we are prompted to ask, has Britain done to deserve this? Are they not suffering enough? Somebody should warn them so that they may be on guard against this unexpected attack from the rear. And somebody should line up these lovely ladies in their ducky uniforms and let them in on a few of life's secrets, especially about soap. Maybe somebody from the British consulate can head off this thing before it goes too far, shunting this misdirected energy if possible onto a more useful track. Maybe somebody could just say to them quietly, but firmly: "Wrap bandages, knit sweaters, parade and collect money, if you will, but for the love of Pete, ladies, lay off the soap!"

U. S. P. SOFT SOAP

Comments from the Trade on the proposed new monograph offered by the U. S. P. Revision Committee for inclusion in the new U. S. Pharmacopoeia

A WAVE of critical comment has greeted the proposed new U.S.P. Monograph on Soft Soap, following its release several weeks ago and the request by Dr. E. Fullerton Cook, Chairman of the U.S.P. Revision Committee, for comment from the trade. While many soap makers have approved the proposed liberalization in the formula restrictions imposed by U.S.P. No. 11, there is definite opinion in other informed sources that a very exacting specification should be retained. Those approving the change cite the unfortunate tendency of linseed oil, prescribed in the present formula, to develop occasionally an objectionable fishy odor. Opponents of the formula change, on the other hand, express a fear that without imposition of definite raw material requirements the door may be opened to widespread use of unsuitable soap oils on which the average buyer would have no check because of high analysis costs.

On other suggested changes, such as addition of oleic acid and glycerine to the formula, there is more general opposition. The opinion of the trade seems to be that there is no particular purpose in the oleic acid content, and that in view of the present shortage and high price of glycerine, it might be advisable to eliminate this from the formula either partly or entirely.

Representative comments from soft soap manufacturers, assembled from the recent correspondence files of *Soap and Sanitary Chemicals* and The Association of American Soap and Glycerine Producers are reported below:

* * *

"It looks like another grand and glorious opportunity, for no good reason, to change once again the specification for making soft soap. Over the years, the writer has been a stickler for a very exacting specification. A test on the finished product should always be such that the buyer and the user of U.S.P. soft soap should get the maximum of quality and not a product that just meets the minimum requirements.

"In the past, we went from linseed oil to cottonseed oil and then back again to linseed oil, with a mixture of the different alkalies. Most of the so-called U.S.P. soap on the market was made out of anything; foreign fatty acids, soya bean oil, cottonseed oil, once in a while linseed oil, and what have you,—with or without glycerine and with or without alcohol. When the buyer was sufficiently sound financially to pay for analysis costs, we never had any trouble selling the product and getting the price. But not many buyers would go to the trouble of spending $20 or $25 for an analysis on a barrel of soap, worth only $40. Result: they got anything and everything—sometimes honest to goodness U.S.P. Soft Soap, but not often.

"Now comes the dawn. The Committee proposes to change the specification, lower the bars and make it easier for the boys to use cheaper oils. Of course, to intrigue the situation and make it a little more interesting, they stick in a little oleic acid, and everyone knows that there is plenty of oleic acid in lower priced vegetable oils to start with. Why the oleic acid is beyond me. To make the color more uniform? (says you). And why, if they say it is to be made without the removal of glycerine, why don't they give us some idea of the percentage of glycerine that should be present in the finished soap and make it mandatory with the necessary test to ascertain that percentage.

"Under this proposed specification, a buyer of this product would never be sure of getting the same type of finished soap. The answer to this one is quite evident. One lot would be made from soya bean oil, the next time maybe from linseed oil, the next time from cottonseed oil or any kind of fatty acid you could get hold of, plus maybe some glycerine —if you are lucky and have a priority rating. In regard to this latter, in the past it was substituted for alcohol and they told us that it made saponification easier. Of course, that's open to question if you are a *good* soap maker.

"To sum it all up, we know of no good reason for changing from the past specification for U.S.P. Soft Soap except perhaps that what makes the world go 'round is perpetual changing on general principles."

* * *

"The only suggestion we make is that oleic acid be eliminated and much more vegetable oil specified.

Oleic acid is an animal product and is not nearly as good to use as vegetable fatty acids. Furthermore, we don't see any earthly reason why you need any fatty acid. All crude oils such as: soya bean, linseed and corn oil contain a percentage of free fatty acids. There is no difficulty in saponifying the straight oil and there will only be confusion in adding oleic acid.

"We think also that in view of the war situation there is not enough advantage in adding the glycerin. It might be advisable to eliminate it either partly or entirely."

* * *

"The proposed Monograph on Soft Soap, U.S.P. for the new issue of the Pharmacopoeia should be found acceptable. The complaint on Soft Soap, U.S.P. XI, has been the limitation to the use of linseed oil and a rigid compliance with the given formula. The new formula is only a suggested one, and the manufacturer is permitted a choice of materials and methods in producing a soap that will meet the analytical specifications as outlined in the Monograph. Of course, the usual care and skill are necessary in manufacture and it will require strict laboratory control, but the limits are fairly liberal, not nearly as severe as some federal specification soaps."

* * *

"We shall be very glad if a new formula is accepted in the 12th edition of the Pharmacopoeia, allowing for other oils than linseed. The high price of linseed oil, and its unhappy characteristic of developing a fishy odor upon standing, does suggest the permission to use some of the other oils, many of which are lower in price and are relatively free from development of linseed oil odor."

* * *

"Referring to the new specification for Sapo Mollis, the only possible advantage I can see is that the use of other oil rather than linseed may be desirable for the reason that linseed soft soap sometimes develops an objectionable odor.

"I note however, that the use of cotton seed oil would be permitted and this was the oil that was used in one of the previous U.S.P. Specifications. Cotton seed oil soft soap when standing for any length of time has a tendency to fig; therefore suggest omitting the cottonseed oil.

"The oleic acid will probably help the batch finish a little faster in the kettle. The use of all potash in place of potash and soda won't make much difference either way."

* * *

"The oleic acid on the market is either saponified red oil, or distilled red oil. It comes in various titres, colors and odors. The writer believes that this should be more carefully specified, since the odor of some red oils is very persistent when made into soap and stays on the hands for a long time after washing."

* * *

"We . . . question . . . the need to include oleic acid in the formula. It has been our experience that by careful saponification an excellent product can be made without the use of oleic acid. On the other hand, the use of oleic acid does offer opportunities of imparting an unpleasant odor to the soap."

* * *

"In our opinion the incorporation of glycerine in addition to that produced by the saponification of the oil serves no useful purpose and consequently, we can see no valid reason for adding glycerine to this product. This is especially true at the present time, since every effort is being made to conserve glycerine for national defense."

* * *

"On the specification of matter insoluble in alcohol, 3 per cent seems an extremely high tolerance."

* * *

"In case this formula should be adopted as the USP standard, could the term distilled water be modified so as to include water of not to exceed a certain maximum hardness? In actual production, the use of distilled water is not often practical. The use of regular tap water in most producing areas does furnish a very excellent soap. If a little latitude were allowed as to hardness, then this formula could be produced on a commercial scale with greater ease."

* * *

"The method for determining alkali carbonates calls for washing the filter containing the alcohol insoluble residue with 50 cc. of boiling distilled water. In our opinion, 50 cc. is not a sufficient quantity for thorough washing of the filter and, therefore, we would suggest changing it to conform to the standard A.S.T.M. procedure which reads, 'Wash the filter containing the alcohol insoluble residue thoroughly with boiling distilled water, etc.' "

* * *

"We would suggest adopting the new official method of the A.S.T.M. No. 460-41 as a more suitable method for the determination of moisture by the distillation procedure."

* * *

"We question the specification regarding glycerine. It may be that by the time this formula goes into the new Pharmacopoeia there will no longer be a priority of high rank required for the purchase of glycerine. However, at the present time, the inclusion of glycerine would be unfortunate for the average manufacturer. In our opinion there is sufficient glycerine in any of the vegetable oils mentioned so as not to require its addition to the formula separately."

* * *

"Under *Characteristics of the Liberated Fatty Acids*, we would recommend observing all of the precautions noted in the A.S.T.M. procedure, particularly with reference to acid concentration and oven temperature."

* * *

"The proposed formula seems superior to the formula in U. S. Pharmacopoeia No. 10 and No. 11. Both the 10 and 11 soft soap contain soda soap. On cooling down this soda soap seems to crystalize out from the mass, making a very poor looking product which was very objectionable to the trade. The U.S.P. 9 soap did not do this. In fact, we have had

a number of customers who refuse to use the U.S.P. 10 and 11 soap and would only take soap made from the U.S.P. 9 formula."

* * *

"As an aid to those who specify the USP formula for Sapo Mollis, would it be well to add a maximum specification regarding free alkali and unsaponified saponifiable matter?"

* * *

"We see no particular reason for the oleic acid plus the additional glycerine. It seems to us that 400 grams of vegetable oil would be sufficient."

* * *

"The Bureau of Standards has a specification on oil soap which is excellent, and we believe it would be well for the Revision Committee to study this specification."

* * *

"As a result of studies made by the Soap Analysis Committee, the A.S.T.M. methods have recently been revised and they represent the most accurate analytical methods known to the soap industry."

* * *

"We think it is an improvement on the old formula inasmuch as various oils are permitted. However, in our opinion the specifications are entirely too lax for a good soap."

* * *

"We believe that .25 per cent of Free Alkali is too high a tolerance."

* * *

"The use of soya and corn oils is commendable. It is doubtful if cotton seed oil will ever play a great part in these preparations be-

(*Turn to Page 70*)

This proposed monograph on U.S.P. soft soap for the new Pharmacopoeia has been drafted by Dr. George D. Beal, chairman of the sub-committee in charge of this section. It is proposed that this soap be called Medicinal Soft Soap in the new edition. Comments and suggestions have been invited by E. Fullerton Cook, general chairman of the revision committee.

SAPO MOLLIS

Soft Soap

Sapo. Moll.—Green Soap

Soft Soap is a potassium soap commonly made by the saponification of vegetable oils, excluding coconut oil and palm kernel oil, without the removal of glycerin. Soft Soap may be prepared extemporaneously in the following manner:

The Vegetable Oil	380	Gm.
Oleic Acid	20	Gm.
Potassium Hydroxide	91.7	Gm.
Glycerin	50	cc.
Distilled Water, a sufficient quantity, To make about	1000	Gm.

Mix the oil and oleic acid and heat the mixture to about 80° C. Dissolve the potassium hydroxide in a mixture of the glycerin and 100 cc. of distilled water and add the solution, while it is still hot, to the hot oil. Stir the mixture vigorously until an emulsion is formed, using mechanical stirring if desired, then heat the mixture on a hot plate, with constant vigorous stirring, until it becomes homogeneous and a small portion dissolves completely in hot water, producing a clear solution. Add sufficient hot distilled water to make the soap weigh 1000 Gm., and work the water into the soap until it is uniformly distributed and the soap is of the same consistency throughout.

NOTE—The vegetable oil to be used in the above formula may be corn, cottonseed, linseed, olive, soya bean or similar oils having a saponification value, page...., not greater than 205, and an iodine value, page...., not less than 80.

The above formula is based upon potassium hydroxide having an alkalinity equivalent to 85 per cent of KOH. If the potassium hydroxide is of any other strength, a proportionately larger or smaller quantity should be taken.

Description—Soft Soap occurs as a soft, unctuous, yellowish white to brownish or greenish yellow transparent to translucent mass, having a slight, characteristic odor, often suggesting the oil from which it was prepared, and an alkaline taste.

Reaction—An aqueous solution of Soft Soap (1 in 20) is alkaline to indicators.

Water—Place about 10 Gm. of Soft Soap, quickly weighed to the nearest centigram, in the distilling flask of the apparatus for the moisture method by *toluene distillation*, page..... The Soap is most conveniently weighed in a boat of metal foil, of a size that will just pass through the neck of the flask. Place 250 cc. of toluene and 10 Gm. of anhydrous barium chloride in the flask, connect the flask through a ground-glass joint to the distilling apparatus, and fill the receiving tube with toluene. Determine the water as directed under *moisture method by toluene distillation*, page...., beginning with the words "Heat the toluene in the flask." The volume of water found corresponds to not more than 52 per cent by weight of the Soft Soap taken.

Alcohol-insoluble substances—Dissolve about 5 Gm. of Soft Soap, accurately weighed, in 100 cc. of hot, neutralized alcohol, collect the residue, if any, on a filter, thoroughly wash it with hot, neutralized alcohol, and dry the residue for 4 hours at 100° C.: the weight of the residue does not exceed 3 per cent of the weight of Soap taken.

Free alkali hydroxides—To the combined filtrate and washings obtained in the determination of *alcohol-insoluble substances* add 0.5 cc. of phenolphthalein T.S.: a pink color is produced. Titrate the solution with tenth-normal sulfuric acid until the pink color is just discharged: the volume of tenth-normal acid consumed corresponds to not more than 0.25 per cent of KOH. Each cc. of tenth-normal sulfuric acid is equivalent to 0.00561 Gm. of KOH.

Alkali carbonates—Wash the filter containing the *alcohol-insoluble residue* with 50 cc. of boiling distilled water, cool, and titrate the aqueous filtrate with tenth-normal sulfuric acid, using methyl orange T.S. as the indicator: not more than 0.5 cc. of tenth-normal sulfuric acid per Gm. of Soft Soap originally taken is required for the neutralization.

Unsaponified matter—A solution of Soft Soap in hot distilled water (1 in 20) is nearly clear.

Characteristics of the liberated fatty acids—Dissolve about 25 Gm. of Soft Soap in 500 cc. of boiling distilled water in a beaker, add gradually 50 cc. of diluted sulfuric acid, and heat the mixture on a water bath until the liberated acids form a transparent layer. Decant the fatty acids into a separator and wash them with 50-cc. portions of hot distilled water until the last washing, when cool, is neutral to methyl orange T.S. Transfer the fatty acids to a dry beaker, and allow them to stand in a warm oven until any water which may be present has separated. Then filter the acids through a dry filter in the warm oven. The acid value of the fatty acids is not more than 205, using about 1 Gm. of the fatty acids, accurately weighed, page...., and the iodine value of the fatty acids is not less than 85, using from 0.15 to 0.2 Gm. of the acids for the test, page.....

Storage—Preserve Soft Soap in well-closed containers.

Preparations—Linimentum Saponis Mollis.

SALTING OUT . . .

A Discussion of Suggested Changes in Usual Soap Making Practice When Using Low Grade Fats and Hard Water

By Andreas Treffler

THE process of purifying sodium soaps by treatment with salt and caustic soda changes is normally satisfactory, if the raw materials have been refined and if the water is not too hard. The finished soap may contain a small amount of saponified proteins and oxidized fats, some calcium, magnesium and iron soaps and other impurities, but the balance of the batch is able to suppress their action. In cases, however, where the fats and fatty acids are contaminated with a higher amount of impurities as proteins, highly oxidized fats and colloids, and where the water supply is definitely hard, a somewhat different technique appears to offer advantages.

Proteins are found in house greases and in crude vegetable oils, and in the hydrolyzed form as amino acids in silk boil off sludges. In the unhydrolyzed form, they consist of a complex of various amino acids hinged together at their —COOH, —NH_2 groups, whereby one molecule of water is split off, as shown in following reaction.

$$NH_2.CH_2.COOH + HNH.CH_2.CH_2.COOH \rightarrow NH_2CH_2\underline{CONH}.CH_2.CH_2COOH + H_2O$$

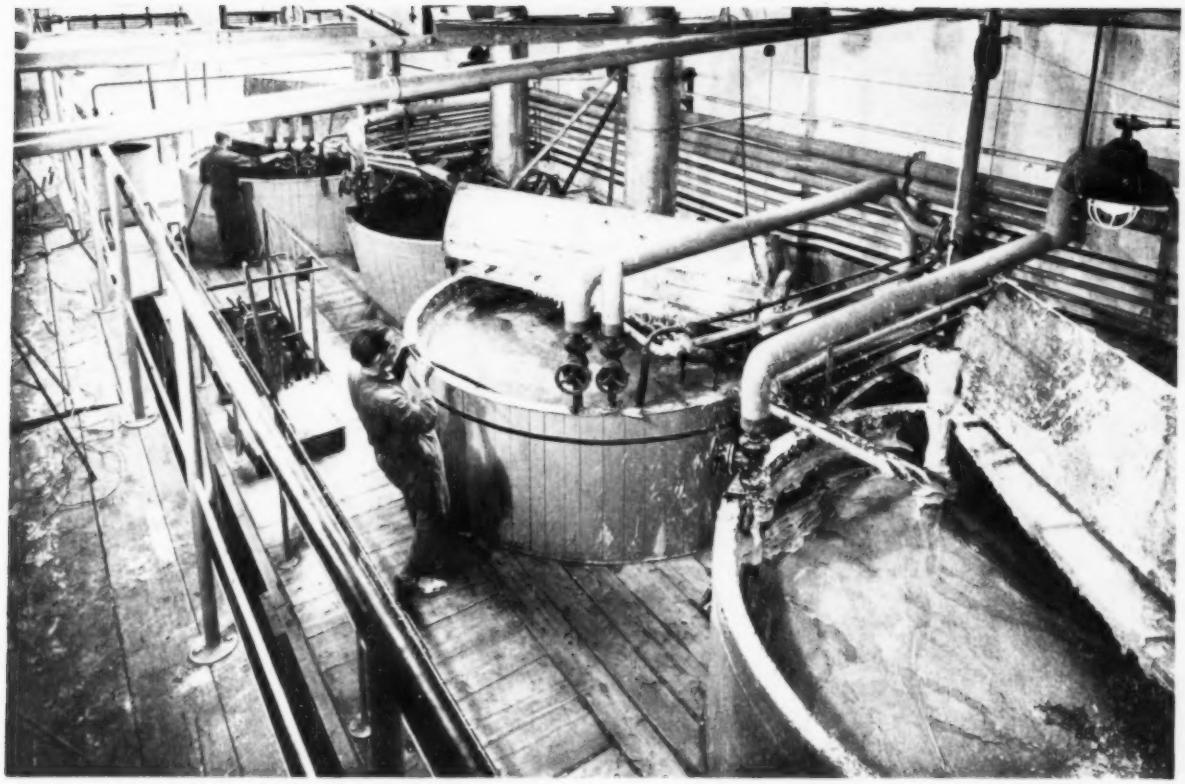
Glycine — Alanine

The CONH group obtained causes the swelling of the protein molecule in the presence of water and is split again by the action of alkalies, especially by boiling as in soap making and the silk boil off process. One molecule of water combines with this group again and restores the COOH group, characteristic of fatty acids and amino acids, which is subjected to saponification by alkalies.

The presence of NH_2 groups, in which the amino acids differ from the fatty acids, is not sufficient to suppress the strong emulsifying action of one on the other. By means of petroleum ether and similar solvents it is possible to break this emulsion, as amino acids are insoluble and fatty acids soluble in them. By distillation a complete separation is also obtained. A third method of separating the acids is a centrifugal process in a sulfuric acid solution at the isoelectric point of the amino acids, but with this method separation is not complete. All three methods are rather expensive and thus most soap makers try their skill in such cases with the usual soap making methods. These methods are normally successful, when the amount of proteins and amino acids is small.

Amino acids have a higher specific gravity than fatty acids, but in the saponified state they act very much like soaps. Most are salted out with the soap and remain emulsified in the soap layer. Some molecules, however, especially those with a low molecular weight, are not affected by this salting out process and are found in the salt lye, adding some foaming and emulsifying qualities to it. In salting out such soaps it is necessary to add more salt, which increases the specific gravity of the lye and gives the soap particles more lifting power. Otherwise some soap is liable to be held back in the lye by the emulsifying strength of the saponified amino acids. On long standing the rest of the saponified amino acids settle to the bottom of the soap layer. By means of the swing pipe the clear transparent soap layer on the top can then be drawn off. But if the amino acids are present in a high percentage, they pervade the whole soap layer, as they are very voluminous, and disrupt the settling process.

In research work, the writer has developed a simpler method by hanging a SiO_2 radical to the saponified amino acids, increasing thereby the specific gravity of the molecule and changing the affinity of the fatty acids and amino acid molecule entirely. In this method liquid 40 Bé sodium silicate with a SiO_2 content at least $2\frac{1}{2}$ times as high as the Na_2O content, is added to the completely neutral mixture of saponified fatty acids and amino acids. The soap is boiled about two hours and then salted out in the usual way. The amino acids have then attained such a high specific gravity and have lost so completely their soap characteristics, that they drop as precipitate through the soap and lye layer and are found within a short time after the salting out process on the bottom of the soap kettle. This precipitate is removed from the kettle with the salt lye a few hours later or the following day. If the cone of the soap kettle is depe enough, the precipitate is washed out with the lye, otherwise it is carried out by the pres-



sure of the soap layer moving slowly through the cone at the end of the lye change.

The success of this process depends largely upon several factors: 1. The soap in the kettle must be completely neutral, with a pH not higher than 9.6. When phenolphtalein is added, the pink color must develop slowly, with no bite on the tongue on tasting. 2. The weight of the 10 Bé sodium silicate added to the soap shall be at least equal to the weight of the amino acids present in the soap. 3. The volume of the water added to the soap on the first silicate treatment should be about twice as high as usual, to give the very voluminous amino acids ample space for their reaction with the silicate.

The salting out process of the soap is not finished until a sample drawn from the kettle in a glass bottle shows after standing a few minutes three distinct layers: a soap layer on top, a salt layer below and a gray precipitate on the bottom. If no clear break in these three layers is noticeable, more salt or more water must be added with prolonged boiling. Silicate can no longer be added after the soap starts to break, as it would be salted out and precipitate in lumps without any effect. In this first treatment, more than 90 per cent of the amino acids and other colloids can be precipitated out. The change in the color of the soap is often remarkable. In the second treatment more silicate for precipitating the rest of the impurities is added.

The presence of amino acids in commercial soaps deteriorates their value and produces a gummy opaque appearance. With their NH_2 and some HS groups, they constitute an excellent food for bacteria and rancidity develops rapidly, especially in the liquid state. By dissolving such soap in alcohol, the saponified amino acids are found as alcohol insoluble particles. By splitting the soap with mineral acid and extracting the fatty acids with ether, a gray slimy precipitate between the acid and ether layers indicates the presence of amino acids. The saponification value of proteins is about 240. The pH of a neutral protein soap is about 8.5.

THE silicate process not only eliminates proteins in amino acids, it also precipitates the calcium, magnesium and iron cations present in hard water. Hard water forms with sodium soaps the water insoluble calcium, magnesium and iron soaps and decreases the detergent value of the soap. By heating sodium silicate with these soaps, the corresponding water insoluble silicates are precipitated and sodium soaps are formed again.

In order to determine the nature and the chemical composition of such precipitates found in the soap kettle after a silicate treatment, I made several analyses with the following results:

Amino acids and organic matter	27.0 %	23.5 %	37.5 %
SiO_2	36.7	46.9	36.1
Fe_2O_3	7.51	3.78	2.5
CaO	27.3	23.8	19.9
Na_2O	2.0	2.5	2.9
MgO	trace	trace	trace

These analyses demonstrate the formation of different silicates but do not show how the amino acids and the organic matter are precipitated. During the silicate treatment, the faint odor of ammonia gas, a decomposition product, is noticeable. The SiO_2 radical probably combines with the NH_2 radical, causing its separation from the amino acid molecule and forming an unstable intermediate compound which decomposes. The longer the soap is boiled, the more ammonia is liberated and the more worthless, low molecular fatty acid molecules are formed.

If the silicate process softens the water used in soap making, the same process should soften the water and remove boiler scales from boilers and radiators. One of the best boiler and radiator cleaners on the market consists of liquid sodium silicate (ratio: $1Na_2O$, 2.75 SiO_2) with a small percentage of sodium bicarbonate. As in the soap treatment, boiling is necessary to stimulate the reaction and formation of the different insoluble silicates, which must be flushed out later.

Another headache for soapmakers is caused by highly oxidized fats, found especially in textile sludges, in house greases and recovered fats, which have a high iodine number (a high percentage of unsaturated fatty acids) and which have been exposed for a prolonged period to air and heat. As most of the fats contain a certain percentage of the unsaturated fatty acids, such as linoleic and linolenic acids, they are more or less subject to oxidation. Highly oxidized linoleic and linolenic acids have no detergent value when saponified, and as they deteriorate the value of other soaps, it is desirable to remove these acids during the soapmaking process. Oxidation changes the physical and chemical behavior of the fatty acid molecules entirely.

In the unoxidized state they are soluble in petroleum ether and insoluble in hot water and 70 per cent alcohol, but in the completely oxidized state they are insoluble in petroleum ether and soluble in hot water and 70 per cent alcohol. During the salting out process, such oxidized soap molecules are not affected by salt and stay dissolved in the hot salt lye. As they still have soap characteristics, they are liable to draw some soap into the lye. It is advisable therefore to use about twice as much water as usual for a better dispersion, and more salt to increase the lifting and separating power of the unoxidized soap particles. If the percentage of oxidized soap is high, the salt lye should be drawn off while hot, as on cooling gelation may take place.

In soap factories where a lye settling tank has been installed, it is often observed that a gel forms on top of the lye after cooling. This gel consists mainly of such oxidized fats. Some proteins and real soap carried into the lye with other impurities form the rest of this nigre. These are the fat losses in soap making. It has been a source of wonder to soap makers why the losses in certain batches are much higher than in other batches even when the same procedure of soap making is used.

As the saponification value of fats does not change much when they are slightly oxidized, another method must be used to detect oxidation. Saponification, splitting with mineral acids and extraction of the fatty acids with petroleum ether gives the true amount of fatty acids. Oxidized fatty acids are not soluble in petroleum ether and can be determined after the petroleum ether has been drawn off by dissolving in alcohol and evaporating.

SOFT water in the laundry long ago proved itself an economy. The old lime-soda process is economical to operate but requires a considerable amount of ground space and regular and strict control. If the water supply contains a considerable proportion of magnesium salts, successful lime-soda softening necessitates the use of a coagulating agent such as sodium aluminate to speed up the rate of precipitation and remove hardness more completely. The lime-soda softener provides water of about 2-3° of hardness, which is eminently suitable for boiler feed purposes.

A zeolite or base exchange plant generally costs more to operate and with water over about 20° total hardness is not really economical in comparison with the lime-soda process. On the other hand, the plant is compact, simple to operate, and requires less attention than the lime-soda plant. Another advantage of the zeolite plant is that there is no sludge to dispose of.

For laundry purposes iron should not exceed two parts per ten million. If the natural water contains suspended iron in excess of this and requires softening, a lime-soda plant is suitable or a zeolite plant preceded by a filter to remove the iron. If the iron is in solution and the natural water requires softening, a lime-soda plant should be preceded by an aerator, or if a zeolite plant is otherwise suitable for installation, it should be preceded by an aerator and a filter. If a natural water is acid, carbon dioxide may be removed satisfactorily by a lime-soda plant. On the other hand, zeolite, particularly synthetic material, may deteriorate rather rapidly from this cause.

A new type of exchange material operates on the hydrogen exchange cycle. When a water containing calcium, magnesium and sodium salts is passed through it, the calcium, magnesium and sodium ions are exchanged for hydrogen ions and the resultant water is of zero hardness but consists of a very weak solution of acids. A further development allows production of commercially pure distilled water. Natural waters are first passed through the plant containing the hydrogen-ion exchange material and then through a second plant which is filled with a bed of material which absorbs acid. The resulting water contains free carbon dioxide only, which may be removed by a de-gasifier. Such a plant provides ideal water for laundry purposes.

(Turn to Page 70)

GLYCERINE...

Some observations on its recovery and refining in modern soap plant practice . . . concluding a series of three articles

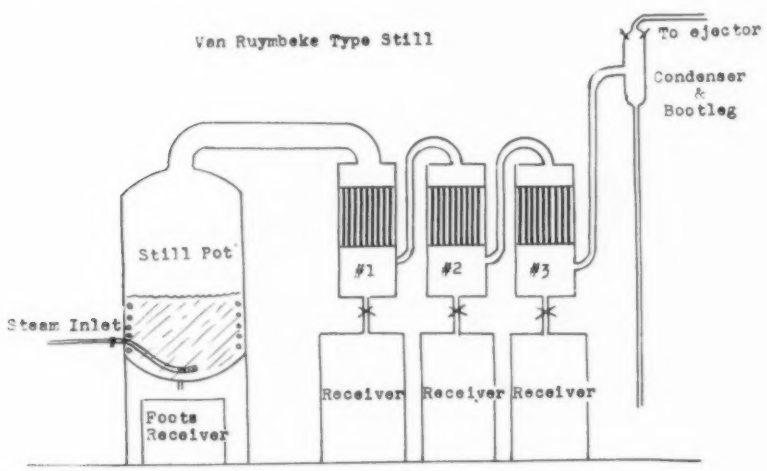
By J. W. McCutcheon

REFINED glycerine is produced from crude by steam distillation under vacuum. A number of types of stills are in use, but it must be borne in mind that in practice many improvements and adaptations to suit local conditions of operation frequently make it difficult to reconcile them with the original patents. A few types are the Van Ruymbeke, Heckmann, Garrigue, Wood and the Wurster Sanger continuous still described elsewhere (7). Two of the most commonly used types are the Van Ruymbeke and the Garrigue, which differ chiefly in their source of steam. The former uses live or superheated steam from the main boilers, the latter uses steam generated by the evaporation of the weaks from the final condenser, and for this reason is often referred to as a closed system.

Shown below is a simplified diagram of a still built on the Van Ruymbeke principle. A charge of crude varying according to the size of the equipment, but normally running between 10,000 and 20,000 pounds is weighed or measured into a feed tank and made alkaline by the addition of caustic soda. The purpose of this is to prevent the passage into the distillate of certain decomposition products, particularly low molecular weight fatty acids. Excess caustic, however, will slow down the rate of distillation and may cause low yields due to the formation of di and polyglycerols. For any one crude, this alkalinity is usually held within a few hundredths of 1 per cent, but may vary from crude to crude, from 0.2 per cent to 0.4 per cent calculated as Na_2O. The feed tank should be equipped with a closed steam coil so that only hot crude is fed to the still pot. After a partial vacuum is established, about one-third of the total charge is drawn into the still or an amount just sufficient to cover the top closed heating coil, so that burning will be avoided.

When approximate temperature conditions have been reached, live steam is admitted through a spider arrangement and distillation proceeds. Since distillation rates and condensing temperatures are somewhat dependent on the amount of live steam passing per hour, it is necessary to control this within close limits. Various devices are possible, but probably one of the simplest is to use a perforated disc in the live steam line, adjusted to the desired flow at normal working pressures. This flow is calculated to give an hourly rate of about one-third pound of steam for every pound of glycerine distilled. This steam should be superheated to a temperature of 200° to 220° C. before entering the still pot, although this may frequently be dispensed with. Toward the end of the run, when the complete charge is in and the still is being "worked down," this steam flow is increased about 30 per cent by use of an auxiliary steam feed so that reasonably dry foots will result. The distillate passes over at about 290° F., if high vacuum ejectors are used, or at about 325° F. under a pump vacuum of about 28 inches.

The first condenser shown in the diagram is usually maintained at a temperature just below that of the distillate and the majority of the glycerine is dropped here at a concentration of about 98 per cent. The second and third condensers are



water-cooled and so regulated that approximately 85 per cent and 70 per cent glycerine drop respectively. Introduction of a fourth and fifth condenser causes no difficulties and the easy manipulation of the condenser temperatures gives very versatile operation. For example, slight increase in the temperature on the first condenser by increasing the steam pressure from 40 to 45 pounds per square inch would have the effect of throwing more glycerine into No. 2 receiver and improving the quality in No. 1. This is frequently done to satisfy the demands of certain customers whose specifications are very rigorous. The light catchalls from No. 2 and No. 3 receivers are usually combined and re-run as second distillation material. The lower initial glycerine content in such cases gives a lower gravity in the first catchall of about 95 per cent and is suitable for C.P. grades.

WITH the Garrigue still, the auxiliary steam for distillation is supplied under variable pressures so that the operation may be somewhat more difficult to control. A simplified diagram of a Garrigue type still is shown below.

In starting up, a small charge of water is added to the weaks evaporator, plus a few pounds of caustic soda to prevent foaming and to neutralize acidic products of distillation passing over. The vacuum is established and one-third of the crude charge admitted in the usual manner. Steam is then turned on both the still and evaporator, the exhaust from the still usually serving to heat the latter. The steam generated in the evaporator, passes through the tubes of the first condenser and down through the still pot into the spider or distributing head. The glycerine and water vapors pass through a catchall into the first condenser where the glycerine is dropped to a receiver and from there to the concentraor. The vapors from the evaporator are therefore superheated by the distillate and at the same time they reduce the temperature of the condenser sufficient to drop the majority of the glycerine. The first condenser, therefore, performs a double function. The second and third condensers are water-cooled as in the Van Ruymbeke still, but differ from the latter in the manner in which their products are distributed. The second condensate passes through a receiver to the concentrator where it unites with the heavy catchall from No. 1. The third condensate passes through a receiver back to the weaks vessel where it provides water for evaporation.

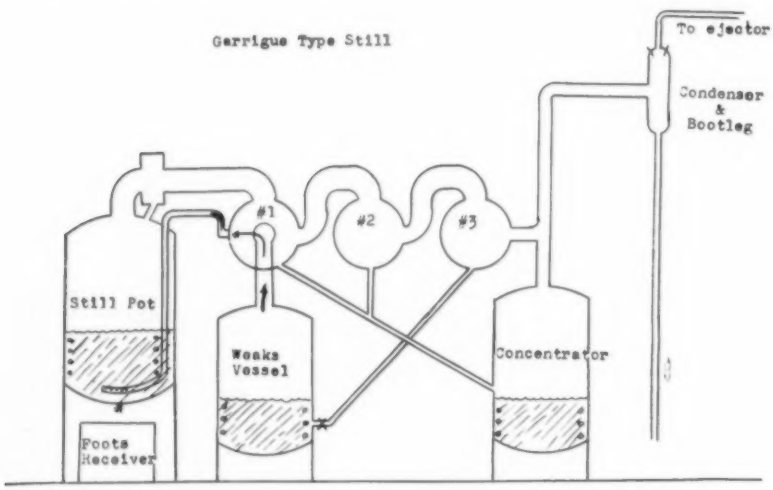
As distillation proceeds, the weaks evaporator will gradually build up a larger and larger charge since the water from the original crude glycerine will be added to it. For a still handling a 15,000 pound charge, the weaks run approximately 1,500 to 2,500 pounds and contain 20 per cent to 30 per cent glycerol. From special studies, it has been calculated that the water in the system makes about three passes through the weaks evaporator in any one run. When sufficient distillate has collected in the concentrator to cover the steam coils, steam may be turned on so that concentration may proceed parallel with distillation.

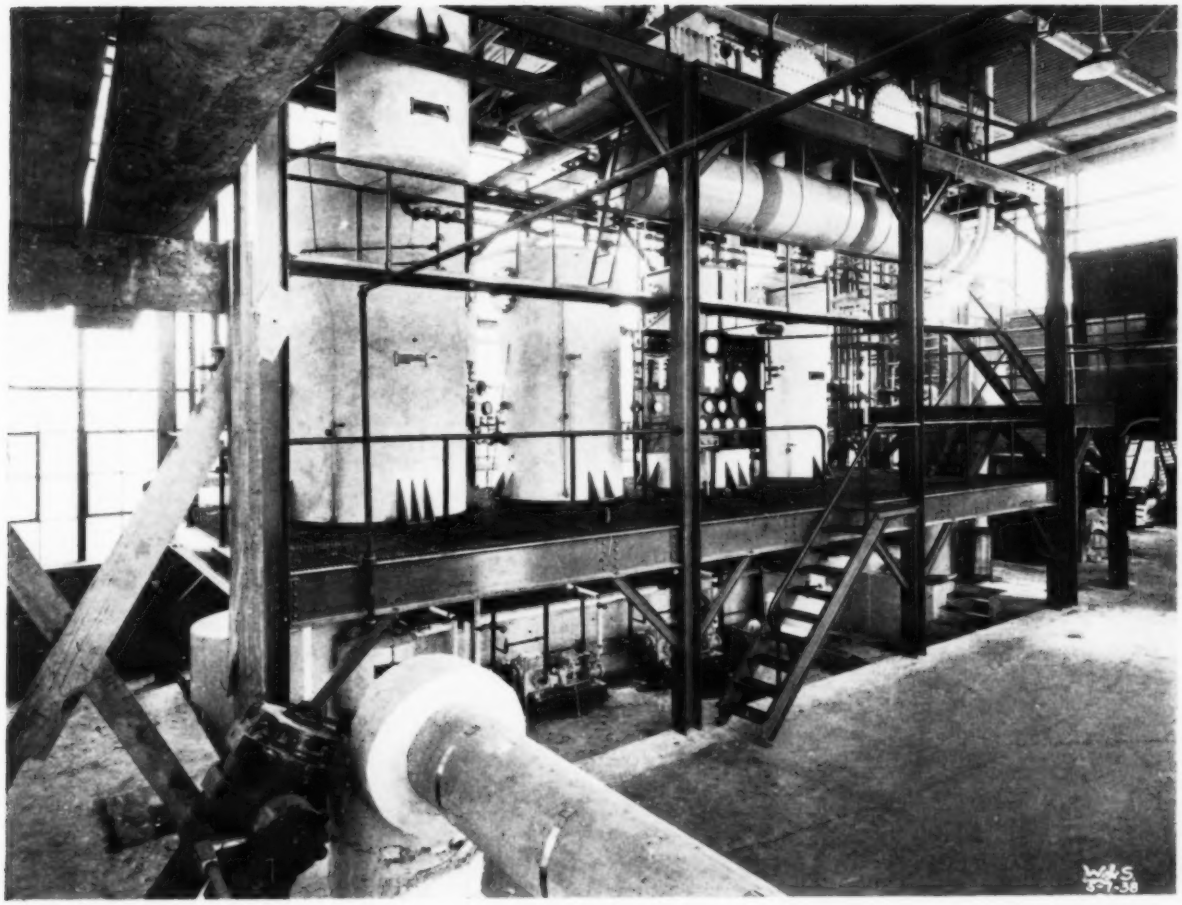
During the working down period in the still pot, the flow of distillate will gradually ease off and concentration advance so that usually when the still is ready to shut down, concentration will also be complete as shown by the temperature. This may run all the way from 360° F. to about 315° F. for 99 per cent glycerine, depending on whether a high or low vacuum system is in use. Experience soon establishes the minimum temperature requirements for proper control.

Normal vacuum relationships exist on the still units with the exception of the weaks evaporator, where the vacuum is decreased by the amount of back pressure established in the spider. This usually amounts to 3" to 4" of vaccum, but may be considerably more if the crude is exceptionally viscous or is high in salt, etc. so that some of the spider openings become clogged. In such cases the drop in pressure may be sufficient to overcome the 6 or 8 foot head of liquid between No. 3 receiver and the evaporator. Although there is usually a check valve in this line to prevent the backflow of liquor, nevertheless the weaks cannot come down and may accumulate to overflow proportions if the operator does not rectify the situation. This is done by reducing the steam flow to the still which, in turn, reduces the vapor pressure in the evaporator. It should be noted that control of boiling in the weaks vessel by a separate steam line would not be feasible since the boiling in the still pot and evaporator must be balanced to maintain equilibrium conditions in the first condenser.

The glycerine in the weaks is of very low quality because it contains the low boiling fractions such as trimethyleneglycol and such polyglycols as are formed during its long contact with alkali at high temperatures. This is particularly true of

Garrigue Type Still





Wurster & Sanger continuous glycerine distillation plant for C.P., dynamite and high gravity grades. C.P. glycerine is produced in one distillation. Left to right: crude still, deodorizer, concentrator, foots still and centrifuge. Condensers and receivers are pictured at top.

distillations under low vacuums of 27"-28" where high temperatures are involved. Analysis by the method of Bertram (8) on glycerine recovered from such sources showed contents of 3 per cent to 4 per cent trimethyleneglycol with concentrating temperatures 5° F. below normal. Reconcentration of the weaks from such distillation gave values of about 12 per cent from which practically pure trimethyleneglycol was obtained by extraction. The glycerine from such sources could never be used either for CP or dynamite grades, but finds numerous other uses in antifreeze, printing inks, adhesives, etc.

The weaks is usually concentrated separately to 85 per cent to 90 per cent glycerol and distilled in a continuous run of three or four charges, since the foots accumulation is very small. By refining under a very high vacuum with correspondingly low temperatures, a considerable portion of the distillate may be used directly in CP grade. However, best CP glycerine is made by double or even triple distilling the 99 per cent or dynamite condensate. Since foots accumulation is negligible, as many as 10 or 12 charges may be passed before the increase in reducing agents makes it desirable to drop a foots.

The handling of foots by either type of still is practically the same. If they are to be recovered, they are usually dropped in a fairly fluid condition to avoid decomposition of the remaining glycerine. If no recovery is contemplated, they are worked down to such a volume that they will just flow from the still pot. In such condition they will probably run 30 per cent to 40 per cent glycerol. They can be worked down further to 10 per cent to 20 per cent, but it is doubtful if this is economical since the washing out time of the still is increased abnormally due to their dry condition. Normal washing requires about three to four thorough boils and may take two to six hours, depending on the type of crude being handled. If high amounts of alkali are required in distillation, the sodium glyceroxides formed make the foots very pasty and difficult to free from glycerine. This fact, plus the slower rate of distillation mentioned previously, makes it imperative to keep the caustic content as low as possible and yet obtain a satisfactory product.

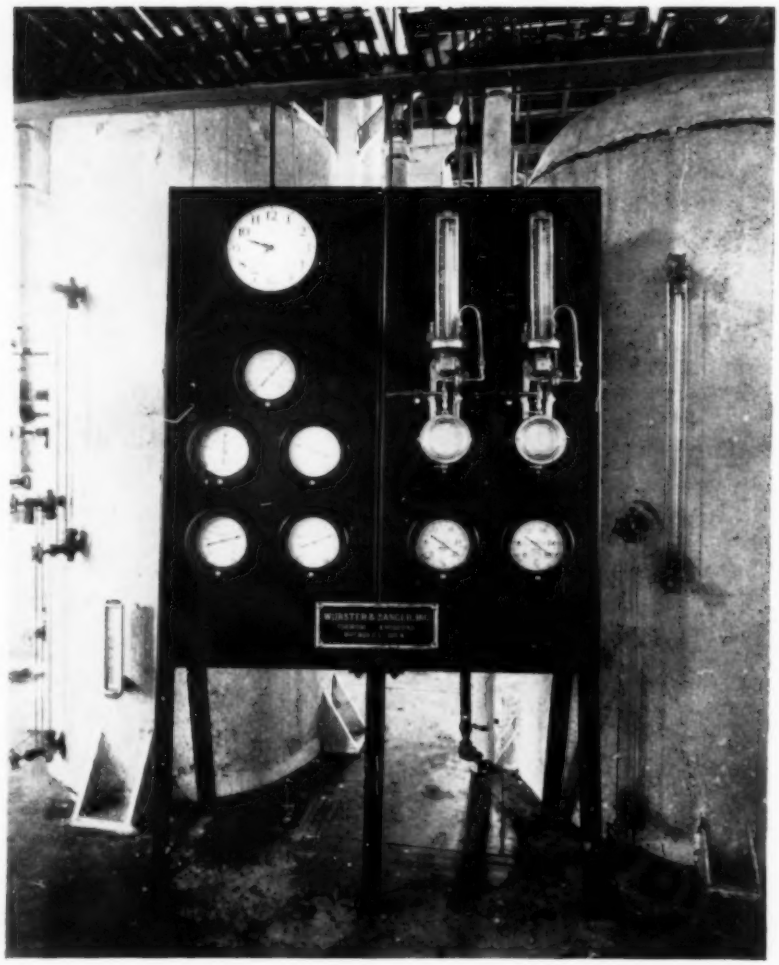
Probably 5 per cent loss on the first distillation and 1½ per cent on the second would represent aver-

age figures. With efficient foots recovery, the overall loss can probably be reduced another 1½ per cent.

THE use of steam ejectors for the production of the vacuum is gradually replacing pumps because of the greater vacuum obtainable—29" plus, as against 27" to 28" with the latter. Although steam consumption for operating the vacuum is higher, the improved distillation rate through lowering the temperature, actually cuts overall steam usage in half—from about 6 pounds per pound of glycerine to about 3 pounds. In addition, the quality of the glycerine is improved as has been mentioned, and a large portion of the first distillate may be used directly in CP, which results in a direct saving of one-half cent to three-quarter cent per pound. Losses through decomposition are less and bleaching costs lowered by as much as 25 per cent to 50 per cent. Whatever the source of vacuum, however, it should be steady to prevent bumping in the still.

Ejectors should have ample capacity to take care of line fluctuations and when pumps are used they should be run slowly and under governor control. Caustic soda should be maintained at as low a level as is consistent with the low reducing agent values, and bootleg water from the ejectors should not run over 0.03 per cent glycerine. Crude should be fed evenly and the tanks cleaned periodically of salt accumulation. It is advisable to inspect the condenser tubes regularly and free them from any accumulated film. This can be done by boiling with weak alkaline solution. Such treatment often increases the still rate by as much as 20 per cent.

Frequent inspection of the spider is also necessary to make certain all openings are free. An auxiliary live steam line into the bottom of the pot of the Garrigue type still frequently is an aid in reducing the glycerine in the foots. High weak's content is an indication either of a broken spider pipe which is abnormally increasing the distillation rate or leaky steam coils in either still pot or weaks evaporator.



Instrument panel on Wurster & Sanger glycerine distillation plant.

Finally, the operators must use care in adjusting the temperature on the condensors and recording thermometers are very desirable for control purposes. For special high grade odorless glycerine, it is well to avoid using a still that has just been used for off-grade material and it is a general rule that weaks distillation or glycerine from foots recovery be run by itself or in a separate still where available. The temperature on the first condenser of a Van Ruymbeke still may be slightly increased and the still rate should be slow, with liberal addition of caustic. The second distillation should be put through on a clean still or not later than the second charge after a wash down.

BLEACHING is usually carried out on both first and second distillations. There is a certain maximum bleach for first distillation, such that the total bleach required for both the first and second distillation is at a minimum. The relation of these must be worked out experimentally for each plant, but we may say that if the total bleach used were 0.25 per cent, it is probable that 0.1 per cent would be used on the first distillation and 0.15 per cent on the second.

Bleaching is done with activated carbon in mechanically circulated tanks, although air is sometimes used with less satisfaction. Quantities used may range from 0.05 per cent to 0.3 per cent, depending on the type of agitation used, quality of the black, type of distillation, etc. Cases have been known where bleach-

(*Turn to Page* 70)

War in the Pacific

...its significance to the soap industry

UNCERTAINTY as to future supplies of coconut oil is a serious threat today to the continued operation of every soap plant. Whether the soap industry can count on uinterrupted supplies of coconut oil is a question that cannot be answered with any accuracy. No one can predict what is going to happen in the Pacific, and no real shipping information is available. The present situation is one which has long been anticipated by soap manufacturers, and many in the industry have prepared themselves in one way or another for just such an emergency.

It is highly probable that imports of coconut oil and copra, as well as of rubber, tin, palm oil, certain essential oils and a thousand and one other materials, are going to be greatly curtailed while the United States is at war with Japan. To what extent coconut oil imports will be affected naturally depends on a number of factors, chief of which will be the successes of the armed forces of the ABCD nations and the length of the war.

If the United States is able to prevent the Philippines from falling into enemy hands, it is reasonable to assume that a certain number of merchant vessels will continue to reach the American continent, and coconut oil,—certainly in more limited amounts will continue to be available. A reduction in the number of ships reaching the United States is to be expected, of course. Lack of bottoms will probably become a more serious problem, making the shipping situation tigher than ever and influencing the oil import picture unfavorably. The copra industry in the Philippines is certain to be interfered with, even if we continue to hold the islands, thus cutting down production.

The sinking of ships bound for the United States even after a convoy system has been set up is to be expected. According to official report, several vessels have already been sunk by enemy raiders since the 7th of December. The loss of ships through sinkings will probably be kept to a minimum as ships coming from the Philippines have a wide choice of routes to the United States. By adopting obscure routes merchant ships can avoid passing through the submarine-infested waters of the Japanese Mandate, and can swing southward, passing "down under" Australia and around South America to Atlantic ports of the United States. Undoubtedly trade routes will not be at all well defined. Actually, there is no definite information about trade route changes or about sailings. Such things are and will inevitably be shrouded in secrecy to prevent the enemy from gaining information.

War risk insurance rates on routes through the Pacific Ocean soared sharply following the outbreak of war, and freight rates will inevitably rise. Thus costs of imported materials such as coconut oil are bound to increase. Yet price ceilings have been established on many of these items in the United States. It remains to be seen what revisions will be made in the fats and oils price ceiling order, insofar as imported materials are concerned.

The need for glycerine in the war effort is rapidly becoming a serious problem, it appears, and the maintaining of imports of coconut oil, from which a good share of our glycerine is made, becomes more important to the national victory campaign as this need increases.

Many things point to the severe national need for glycerine. Only three days after the attack on Pearl Harbor, the OPM requested all producers, refiners, jobbers and dealers in glycerine to ship no glycerine except for direct defense requirements, for hospital and medical use, and except to prevent an immediate shutdown in a civilian plant. Also, it was reported, unofficially to be sure, that restrictions in the use of coconut oil might be pending. The report indicated that the Office of Price Administration may prohibit the use of coconut oil in the manufacture of edible products. If such restrictions are imposed, more coconut oil will be made available to the soap industry,—at least that quantity which would ordinarily go into margarine, shortening and other edible products.

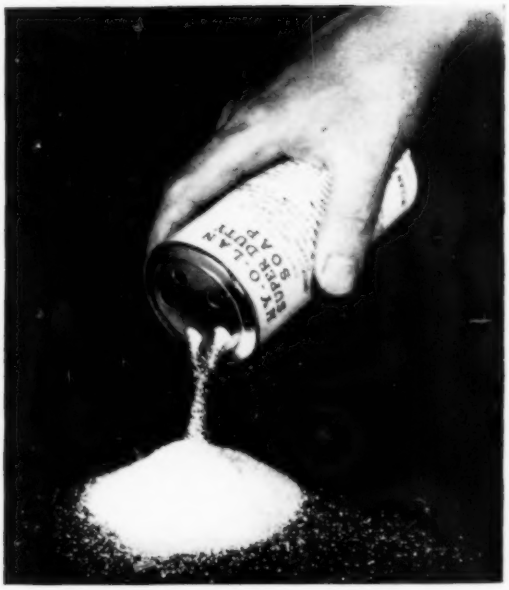
Another product of the rumor mill is that soap making processes in which the glycerine is not recovered may be prohibited by the OPA. Cold-made and semi-boiled soap would thus become taboo. An increase in the production of glycerine is obviously needed, and many soap manufacturers are wondering why the government is not doing more to encourage a high glycerine yield in soap making processes.

Moves to encourage glycerine production may be pending, but so far government action has tended to take the opposite tack. The recent amendment No. 1 to the glycerine price ceiling order, Schedule No. 38, which allowed manufacturers of crude glycerine to add a freight cost differential to the delivered price was a step in the right direction. In the

(*Turn to Page 70*)

New Products and

A popular item during the 1941 Christmas gift season was Charles of the Ritz's "Snow Man." His head is a cake of bath soap and his heart a box of dusting powder, both in the "spur" odor. The combination priced at $1.50.



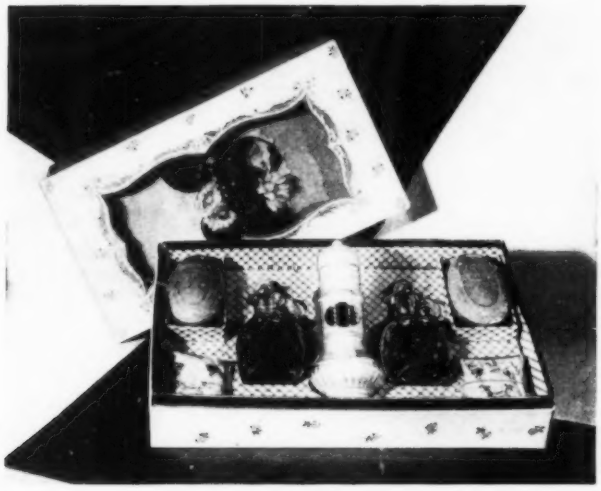
A new heavy duty lanolated skin cleaner for mechanics, printers, etc., has just been introduced by Hysan Products Co., Chicago. In powdered form, it is packed in a handy shaker top can featuring wide holes for ease in pouring.

Hewitt Soap Co., Dayton, has just introduced a new 'Shower Bar." The cakes are designed to give a non-skid grip. Packed four to the box, they are green in color and perfumed with a pine odor.

Packages

Sally Victor, Inc., New York, includes toilet soap in a new line of toilet preparations. Smoothly rounded cakes carry the signature of the distributor. Packaged in orchid blue.

A new item described as a good seller during the recent Christmas gift season was this box of "Shadow" toiletries by Old South Perfumers, New York. Another box of toiletries by the same concern was their "Romance" box.



Shulton, Inc., New York, were quick to capitalize on the new Disney character "Dumbo." The large eared elephant reproduced in soap was a popular seller in the Shulton soap line during the recent 1941 Christmas gift season.

Raw Materials

for the soap and allied industries

RED OIL

CAUSTIC SODA

STEARIC ACID

CAUSTIC POTASH

TALLOW

DRUMS
TANK CARS
TANK WAGONS

COCOANUT OIL

Animal Oils, Fats, Chemicals Vegetable Oils,

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90-95% Pure White. High Melting Point

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CALCIUM CHLORIDE
CAUSTIC SODA
CAUSTIC POTASH
DYES
DISODIUM PHOSPHATE
GLAUBER'S SALTS
GLYCERINE
METASILICATE
OXALIC ACID
POTASSIUM CARBONATE
SAL AMMONIAC
SALT
SAL SODA
SILICATE OF SODA
SODA ASH
TRISODIUM PHOSPHATE

CASTOR OIL
COCOANUT OIL
CORN OIL
COTTONSEED OIL
LARD OIL
NEATSFOOT OIL
OLEIC ACID - RED OIL
OLIVE OIL
OLIVE OIL FOOTS
PALM OIL
PALM KERNEL OIL
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RIDGEFIELD· N. J.

NEWS....

OPA Urges Soap Conservation

An appeal to consumers to conserve soap and soap products to the fullest extent in the interest of national defense was made last month by Miss Harriet Elliott, associate administrator of the OPA in charge of the consumer division. Housewives are advised to purchase soaps in fairly large quantities, to unwrap and allow the cakes to dry out. Other suggestions are given, including the following: that yellow laundry soaps are likely to contain more cleansing action than white soaps because of their higher content of anhydrous soap; that "fluffy" shaving soaps and soaps which float contain large amounts of air which the buyer pays for; that whiting and water may be substituted for more expensive gentle scouring agents, and that ordinary bar soap may be grated on a simple kitchen grater as a substitute for more expensive flake, granule and powdered soaps.

Soap Pay Rolls Increase

The index number of pay rolls of wage earners in the soap industry advanced to 143.5 in October as compared with 139.6 the previous month (three-year average 1923-25 equals 100.0). In October, 1940, the index number was 107.2. Employment index of the industry also increased during October, to 100.2, as compared with 98.2 for September, 1941, and 88.8 for October, 1940.

Head of Lever, Ltd., Dies

Sir Francis D'Arcy Cooper, chairman of Lever Brothers and Unilever, Ltd., London, England, died Dec. 18 at his home at Reigate, Surrey. He was 59 years old. Sir Francis became chairman of the Lever concerns in 1925, upon the death of Lord Leverhulme. He had been vice-chairman for two years previously. He was also chairman of the executive committee of the Export Council,

SIR FRANCIS COOPER

Board of Trade, and was prominent in a number of other government commissions. Sir Francis was educated at Wellington College and was a partner in Cooper Brothers & Co. before the World War. During the war he served with the Royal Field Artillery and was wounded. He was decorated by Norway, Belgium and Bulgaria. He was made a baronet in June, 1941.

Employees Honor W. G. Mennen

In recognition of the 25th anniversary of his election to the presidency of Mennen Co., Newark, N. J., William G. Mennen received from his employees a pedigreed sow weighing 525 pounds and a pedigreed boar weighing 300. The unusual gifts were presented Dec. 17, at the Essex House, Newark, at the annual luncheon of the sales force and officers of the company. Mr. Mennen raises Berkshire pigs, Aberdeen Angus beef cattle and Belgian horses on his farm at Chester, N. J.

BIMS Winter Party Jan. 22

The annual winter get-together of the New York BIMS (buyers, importers, manufacturers and salesmen of soaps and toiletries) is scheduled for January 22, at the Lafayette Hotel, New York. Approximately 100 members are expected to attend. Martin Schultes, Hewitt Soap Co., is chairman of the executive committee.

Lever Launches Follies Show

A new entertainment idea in war revues specially designed for Army camp presentation was launched last month by Lever Brothers, Ltd., Toronto, at the Exhibition Park Theatre before an all-soldier audience. The Lifebuoy Follies, a streamlined version of the overseas entertainment group during the Great War, represents one of the first major attempts on the part of a Canadian business organization to present a professional road-show for the diversion of Canadian troops training in Canada. The Follies plans an extensive tour of Army and Air Force camps in Canada during coming months.

Foragers Annual Banquet

The Foragers of America, "the oldest organization of toilet goods salesmen in the United States," will hold its 44th annual banquet, January 10 at the Midston House, New York. H. T. Georgi, president, and Walter Conklin, vice-president, and the entertainment committee are in charge of entertainment.

Revise Floating Soap Specs.

New specifications for white floating toilet soap (P-S-616a) were issued last month by the U. S. director of procurement, superseding Fed. Spec. P-S-616. The revised specifica-

tion will become effective April 15, 1942. Among the changes appearing in the new specification are the following: Free alkali, calculated as sodium hydroxide (NaOH) shall not exceed 0.1 per cent (previously a maximun of 0.15 per cent had been allowed); anhydrous soap content shall be 62 per cent or more. Copies of Fed. Spec. P-S-616a are for sale by the Superintendent of Documents, Government Printing Office, Washington, D. C.

Explosion at Kellogg Plant

An explosion at the Edgewater, N. J., plant of Spencer Kellogg & Sons, Inc., Buffalo, N. Y., which brought damages estimated at $100,000 and shattered windows in 100 nearby residences, occurred December 14. One man was killed. Sabotage was discounted as a cause, as the Kellogg plant had no direct defense contracts. B. F. Wood, superintendent, attributed the explosion to leakage of hydrogen from cylinders stored on the first floor of the three-story brick building. He said the actual cause might never be known, it is reported.

Form Chicago Cosmetic Assn.

Representatives of some fifty Chicago perfume, cosmetics and toilet goods companies met at the Palmer House, Chicago, Dec. 13, to set up a permanent local organization. Minor H. Andrews of Bourjois, Inc., was named president, W. R. Tenney of Lentheric, Inc., vice president and H. F. Carson of Dorothy Gray Co., secretary-treasurer. A name for the organization is to be selected later.

Swiss Soap Situation

Since last June the Swiss soap industry, under orders from the War Industry and Labor Office, has worked at only 50 per cent of its pre-war level. Present supplies of fats and oils will, it is hoped, permit at least a partial activity in the soap industry until the end of 1942. However, it may be necessary to assign reserve stocks intended for soap manufacture, to the lubricants or edible fats industries if serious shortages of these products occur. *Chem. Trade J. & Chem. Engineer* **109**, 226 (1941).

Hold 18th Chem. Show

Equipment and materials covering the entire range and scope of the chemical products and chemical process industries were featured at the 18th Exposition of Chemical Industries, held at the Grand Central Palace, New York, Dec. 1-6. Approximately 340 exhibitors filled three floors of the Palace with displays of apparatus for process control, processing equipment, machinery, supplies, laboratory instruments, containers, industrial chemicals, processing materials and manufacturing ingredients. Among exhibitors were: Koppers Co., Pittsburgh; J. M. Lehmann Co., New York; Niagara Alkali Co., New York; Proctor & Schwartz, Inc., Philadelphia; Foster D. Snell, Inc., Brooklyn; Sprout, Waldron & Co., Muncy, Pa., and Stokes & Smith Co., Philadelphia.

MM&R Hold Sales Meeting

The annual sales convention of Magnus, Mabee & Reynard, Inc., New York, was held at the Hotel Warwick, New York, January 2, 3 and 4. Technical clinics held at the same time at the company's New York offices were in charge of A. H. Downey, MM&R technical director. Addresses by three prominent technical experts and sales executives not associated with the company were heard at the three-day session. The meeting closed with a banquet for the gathering of 56 salesmen and executives.

Chicago Assn. Xmas Party

The Chicago Drug and Chemical Association held its annual Christmas party at the Stevens Hotel, Dec. 18, with about 275 members attending. Dinner was followed by an entertainment program around a huge Christmas tree and the affair concluded with the distribution of gifts.

Soap Maker Curio Collector

Alden Scott Boyer, Chicago soap and cosmetics manufacturer, received considerable publicity recently as the result of a local newspaper reporter's efforts to find out where all the old wooden tobacco store Indians have gone. Visiting the Boyer International Laboratories at 2700 South Wabash Ave., the reporter discovered a considerable number of these venerable antiques ornamenting Mr. Boyer's private [illegible]rters where they comprise an extensive section of this inveterate hobbyist's Old Curiosity Shop. Slot machines, rare coins and other items are among the collection.

Amend Glycerine Schedule

An amendment to the glycerine price ceiling schedule of the OPA which is designed to enable refiners to get shipments of crude regardless of geographical location was issued Dec. 19, by Leon Henderson, price administrator. Under the amendment, the difference in shipping cost between the refinery nearest to the crude source and a refinery further away from the source may be added to the delivered maximum prices set in the schedule. The manufacturer of crude glycerine thus realizes the same net return on deliveries regardless of the cost of transportation to the refinery which purchases it. Several other minor changes were included in the amendment, and the definitions of crude glycerine with glycerol percentages other than those listed in the original schedule have ben clarified. A minor change was also made in the definition of geographical zones set up in the schedule.

P. & G. Promote "Dash"

Procter & Gamble Co. is using newspapers in California, Washington and Oregon, and Pacific coast stations of Columbia Broadcasting Co., to promote sales of its laundry soap product, "Dash," through a premium offer of a sterling silver brooch, obtainable for 15 cents and a box top.

Colgate Extra Dividend

Colgate - Palmolive - Peet Co., Jersey City, declared an extra dividend last month of $1 on common stock, paid Dec. 23 to holders of record Dec. 15. An extra dividend of 50 cents was paid on the same date in 1940.

New Detergent Specifications

A FEDERAL specification for special detergents (P-D-236) for aluminumware, dishwashing-machines, and manual cleaning, has just been approved by the U. S. director of procurements, and will become effective April 15, 1942. Covered by the specification are detergents for aluminumware, of the following types and classes:

Type I. Detergent for use in mechanical dishwashing machines.

Type II. Detergent for manual cleaning.

Class A. Nonabrasive cleaner.

Class B. Abrasive cleaner.

Requirements are as follows: *Type I.* The material shall be suitable for use in mechanical dishwashing machines and shall be substantially uniform in appearance throughout. It shall be free from objectionable odor, and shall dissolve readily in tepid water. Cleaner may be supplied in either powder, granule, chip or liquid form. When an aqueous solution containing the equivalent of 10 grains per gallon of calcium carbonate is shaken for 15 minutes at 180° F. with the recommended amount of detergent to be used for water of this hardness, the weight of the precipitate obtained shall be less than 20 mg. for 250 ml. of solution. No foam or suds shall be detected when the detergent is tested as follows: add 5 ml. of a 5 per cent solution of the detergent to 45 ml. of carbon-dioxide free distilled water in a Pyrex glass-stoppered round bottle; heat to 155° to 160° F., and shake vigorously; if lather does not persist for more than five minutes, report no foam or suds detected.

The detergent solution shall not corrode bare or anodic oxide-coated aluminum alloy. It shall produce suds lasting more than five minutes when shaken with standard amounts of soap solution and water of 10 grains per gallon hardness. The detergent solution in the recommended concentration shall have an initial pH of not less than 10.0, and shall have a pH of not less than 9.0 after the addition of a specified amount of hydrochloric acid solution. The material shall clean satisfactorily in actual cleaning operations. (These detergents are intended for heavy duty cleaning where the hands do not come in frequent contact with the cleaning solution. Should not be used for manual cleaning.)

Type II, Class A. The material shall be suitable for any type of manual cleaning where abrasiveness is not desired and shall be substantially uniform in appearance throughout, as above. It shall meet tests for turbidity when tested in water of 10 grains per gallon hardness; it shall not corrode bare aluminum or anodic oxide-coated aluminum alloy. It shall produce suds lasting not less than five minutes when tested for water softening capacity. The pH of a one per cent solution shall not exceed 10.5. The material shall clean satisfactorily in actual cleaning operations.

Type II, Class B. The material shall be suitable for any uses requiring a manual cleaner where soil adheres too tenaciously for nonabrasive cleaners. It may be supplied in the form of a liquid, a solid, a paste or a combination of any two of the above. Combinations of metal wools and soaps may be supplied. The cleaner shall be free from objectionable odor and from poisonous or irritant chemicals. It shall produce no undesirable scratching of bare or anodic oxide-coated aluminum. It shall be without visible corrosive action on bare or anodic oxide-coated aluminum. It shall be removed completely by rinsing. The material shall clean satisfactorily in actual cleaning operations.

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Okla. College Honors Newton

Dr. Roy C. Newton, vice-president in charge of research for Swift & Co., Chicago, has been awarded one of four original memberships in the Oklahoma Agricultural and Mechanical College's Hall of Fame in recognition of his contributions to science. The citation commends his scientific and executive skill in organizing Swift & Co.'s research department. Dr. Newton received his degree from Oklahoma A. & M. in 1921 and for a time taught in the college's chemistry department. He joined Swift & Co. in 1921.

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"Oxydol" vs. "Florodol"

Opposition of Procter & Gamble Co., Cincinnati, to application of Tekniska Aktiebolaget Flora, Gavle, Sweden, for registration of the word "Florodol" as a trade mark for soap and soap powder was dismissed in a recent decision of the U. S. Court of Customs and Patent Appeals. The decision reversed a previous decision of the Examiner of Trade-Mark Interferences. In his decision, the assistant commissioner said that concurrent use of the marks on soaps would not be likely to result in confusion.

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National Builds New Plant

The new can manufacturing plant of National Can Corp., New York, which is being built in Chicago at West 51st Street and South Austin Ave., is rapidly nearing completion and will be put into service shortly after the first of the year.

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S.O.C.M.A. Re-elects Merz

August Merz, chemical director, Calco Chemical division of American Cyanamid Co., New York, was re-elected president of the Synthetic Organic Chemical Manufacturer Association at its annual meeting at the Chemists' Club, New York, December 9. Other officers elected were: first vice-president, C. M. Richter, Pharma Chemical Corp.; second vice-president, Victor E. Williams, Monsanto Chemical Co.; treasurer (re-elected) Ralph E. Dorland, Dow Chemical Corp., and secretary (re-elected) Charles E. Mace.

RELIABLE PQ SILICATES OF SODA

MAYBE you know already what PQ Quality means to uninterrupted production because your plant is now using a PQ Silicate. But if you have never worked with PQ and are today studying a product or a process which might involve a soluble silicate, it is a good time to get acquainted.

First, get fresh samples of silicate—samples of uniform quality that are based on high standards scrupulously watched. Our analysts go into partnership with the manufacturing crew on quality from raw materials through the plant to the shipping floor. All this is for just one purpose—that so far as PQ Silicate is concerned your plant results may be comparable to your laboratory experiments.

Are you investigating a new product or process? Know how PQ Silicates can serve as adhesives, detergents, colloids, coagulating agents. In a recent issue* of our house organ *Silicate P's & Q's* no fewer than nine new patents were reviewed which specified a soluble silicate. **Copy on request*

PHILADELPHIA QUARTZ CO.

Established 1831 General Offices and Laboratory : 125 S. Third Street, Philadelphia, Pa.
Chicago Sales Office: Engineering Bldg. Sold in Canada by National Silicates Ltd., Toronto, Ont.

The largest party in the company's history was held by Fritzsche Bros., Inc., New York, essential oils, at the Grand Ball Room of the Hotel New Yorker, December 13, when 295 employees, salesmen and executives met for the annual dinner-dance. Incidental to the occasion was the fact that 1941 marked the seventieth year of the founding of Fritzsche Bros.

Hunnewell Introduces "Lumino"

"Lumino", a new low pH soap powder designed for both mechanical and hand dish-washing in industrial and public service plants, was demonstrated to the sales force of the Hunnewell Soap Co., at the annual meeting held at the Cincinnati offices on December 29.

P&G Pays Bonus

A bonus of 4 per cent of their year's salary will be paid employees of Procter & Gamble Co. earning $3,000 a year or less, as soon as practicable after January 1. About 8,000 will participate in the distribution of approximately $500,000. A similar payment was made in 1940.

Florasynth Founder Dies

Charles L. Senior, vice-president of Florasynth Laboratories, Inc., Bronx, N. Y., and founder of the company, died Dec. 25 at his home at Pelham, N. Y. He was fifty-two years old. A native of the British West Indies, he had lived in the United States for twenty-five years. Mr. Senior was a graduate of Columbia University.

OPM Sets Up Alkali Unit

An alkali unit has been set up in the chemicals branch of the Materials division of the OPM, it was announced last month. John E. Russell, of Pittsburgh, formerly associated with Diamond Alkali Co., was named head of the new unit.

Ampion Corp. Expands

Ampion Corp., Long Island City, N. Y., has just purchased the plant at 4-88 47th Ave., and also the adjoining property which was formerly occupied by Quality Varnish Co. Additional machinery and equipment is being installed to take care of increased business, according to L. B. Schwarcz, president of the company.

Ungerer in New Quarters

Ungerer & Co., New York, are now in the process of moving their offices and perfume department into new quarters in the Butterick building located at 161 Sixth Avenue, according to a recent announcement made by Frederick H. Ungerer, president of the company, who has recovered completely from his recent illness and is now spending full time at his office. The removal will be completed the first part of January. Ungerer has taken the entire fourth floor of the Butterick building — a move which provides the organization with about 19,000 square feet of space—somewhat more space than it has occupied on the four floors and basement of its former location at 13-15 West 20th St. The control laboratories as well as the perfume compounding department and the offices are being moved to the new location, and certain stocks of bulk materials will also be carried there. Main stocks of bulk materials will continue to be carried at the five-story warehouse owned by Ungerer and located at 226-228 West 20th St. The company also maintains offices at Philadelphia, Chicago, Boston, St. Louis, Los Angeles, San Francisco, and Toronto.

F. H. UNGERER

U.S.I. ALCOHOL NEWS

January ★ A Monthly Review of Technical Developments for Chemists and Executives ★ 1942

LOTIONS RELIEVE INSECT BITES

Alkaline lotions are said to have shown good results in relieving discomfort from insect bites or stings. Alcohol contributes soothing effects and antiseptic properties to the lotions.

Alcohol and an Alkali are Chief Ingredients in Many Formulations

Simple lotions, formulated with the aid of an alkali and a soothing agent such as alcohol, have shown a considerable degree of effectiveness in the treatment of many types of insect bites or stings. Such lotions, of course, are not intended for the treatment of bites that may transmit disease or that are very virulent, but they appear to have definite merits where the effects of the bite or sting are merely irritating or annoying.

Alkali Counteracts Acid

Use of an alkaline lotion depends on the theory that in the case of most bites and stings (except wasp stings) the irritating effects are caused by an acid, which is neutralized by the alkali in the lotion. The alcohol acts as an anti-inflammatory agent, and also contributes antiseptic properties.

Mr. C. E. Adams, Chairman of the Board of U.S.I., has been named Chief of the Iron and Steel Division in the Office of Production Management, and assumed his new duties on December 11.

FINDS "DRY-ICE" MAY BE HELPFUL IN FEVER THERAPY

Experiments performed on animals indicate the possibility that "DRY-ICE"* may eventually prove helpful in fever therapy.

Fever therapy (the artificial inducement of fevers) is reported to have shown gratifying results in the treatment of various types of diseases. Its use, however, requires caution, because of the possibility of shock when the heated blood reaches the brain.

In experiments on dogs, it was found that when the carotid vein is packed in "DRY-ICE," the blood can be cooled to normal temperature before reaching the vein. If further studies indicate that the "DRY-ICE" technique can be applied to human beings, a broader scope of usefulness for fever therapy may result.

*Pure Carbonic, Incorporated, sells "DRY-ICE" manufactured by U.S.I.

TECHNICAL DEVELOPMENTS

For further information, write U.S.I.

A substitute for civet absolute can be used in the same proportions as natural civet, according to the maker. Four ounces per gallon will produce a solution equivalent to a 3% tincture of civet. **(No. 530a)**

An oriental type odor can be successfully employed in such preparations as soaps, liquid soaps, and shaving creams, it is reported. It is not intended for use in powders and creams. Maker says product is soap-fast and will not discolor. **(No. 531a)**

Oil of tarragon (estragon) can be replaced by a new synthetic chemical, it is said. Product is described as especially useful in fougere, chypre, and other perfumes of this type. **(No. 532a)**

A new adhesive can be employed on leather, wood, paper, fiberboard, and plastics, and can be used to bond similar or dissimilar materials together, according to the maker. Material is described as a transparent, practically colorless liquid. **(No. 533a)**

ALCOHOL ADVANTAGEOUS IN MAKING BLEMISH COVERINGS

Alcohol can be used to advantage in the formulation of the blemish coverings which can be expected to command a fairly steady market. Many of these coverings are of the cream type, made by adding substantial amounts of titanium dioxide to a cream base. In preparations of this type, alcohol may be used as a solvent for the perfume. Coverings of this kind can be applied by hand.

Other blemish coverings are of the lacquer type, consisting of a suspension of titanium dioxide in a solution of an alcohol-soluble gum or resin. These coverings are usually applied with a brush.

U.S.I. INDUSTRIAL CHEMICALS, INC.

60 EAST 42ND STREET, NEW YORK — CHEMICALS, INDUSTRIAL, ANTI-, SOLVENTS, ALCOHOLS, FREEZE — USI SERVICE TO INDUSTRY — BRANCHES IN ALL PRINCIPAL CITIES

Survey Potash Soap Drum Needs

LIQUID soap manufacturers may be reasonably sure of getting steel drums for items that must be shipped in steel, during the first quarter of 1942, the OPM told the industry last month. This assurance was made to a newly-formed industry committee functioning as a division of the Association of American Soap & Glycerine Producers, and was based on a survey made by the committee. What the situation might be after March 1, 1942, however, the OPM did not say.

Statistics on steel drum requirements of liquid soap manufacturers were compiled from results of a questionnaire sent out by the committee and answered by 102 companies. These figures may be summarized as follows: during the first six months of 1941, the reporting companies used 341,205 steel drums, ranging in size from 1 gallon to 65 gallons, and weighing a total of 7,622,841 pounds. Figures showing the production of potash soaps were also compiled through the questionnaire. It was indicated that total production of potash and oil soaps by the reporting companies was 68,932,000 pounds during the first six months of 1941. This is said to be the most complete survey ever made of the industry, both for steel drum use and soap production.

The industry committee for potash and liquid soap was formed several months ago. Its formation was authorized at association meetings held at Chicago and New York during September attended by 32 potash soap makers. Chairman of the committee is R. H. Young, Davies-Young Soap Co., Dayton, Ohio. Other members are: J. L. Brenn, Huntington Laboratories, Inc., Huntington, Indiana; T. M. Galvin, Armour & Co., Chicago; J. J. Hentz, Procter & Gamble Co., Cincinnati; Herbert Kranich, Kranich Soap Co., Brooklyn; J. F. Walsh, Rochester Germicide Co., Rochester, N. Y., and C. L. Weirich, C. B. Dolge Co., Westport, Conn. A. P. Federline, of the A.A.S.G.P., is acting secretary of the division.

In accordance with a request of the OPM, the potash and liquid soap division is now preparing data regarding products of the industry which must be shipped in steel drums, and those which could be shipped in wooden barrels. The OPM also requested that drum sizes be limited to as few as possible, preferably two but not more than four. The Industry Committee has decided that drums could be standardized at 5, 15, 30 and 55 gallon capacities. It was pointed out to OPM, however, that variations might be needed where pails are required.

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Toilet Goods Meeting

The Toilet Goods Association will hold its annual meeting this year, June 15-17, at the Hotel Waldorf Astoria, New York. The dates have been fixed a little later than usual this year to avoid conflicts with other conventions. The convention committee is headed by I. H. Root of Scovill Mfg. Co., H. Gregory Thomas of Bourjois, Inc., heads the program committee.

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Soap Industry To Meet

The Association of American Soap & Glycerine Producers has selected a tentative date of January 14th for the annual industry meeting. The place is as yet unspecified and the date subject to change, pending an expected decision by the OPM to call an industry-wide meeting in Washington during January. If the OPM calls such a meeting in the near future, the association meeting date will probably be adjusted to coincide. The industry is also still waiting an announcement from the OPM as to the personnel of an advisory committee from representative members of the soap, glycerine and fat splitting industries.

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Drug Dinner March 12

The 17th annual banquet of the Drug Chemical and Allied Trades Section of the New York Board of Trade is to be held at the Waldorf Astoria Hotel, New York, March 12. This year the entire proceeds of the dinner are to be donated to the American Red Cross.

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Change Soap Liniment Odor

Replacement of oil of lavender by oil of cedar leaf in the U.S.P. standard for liniment of soft soap is allowed in an interim revision issued December 23rd by the office of E. F. Cook, chairman of the U.S.P. revision committee. Another change recognizes Indian squill as an alternate for Mediterranean squill. Both changes were made necessary by war time shortages.

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Impose Fats, Oils Ceiling

Ceiling prices on all fats and oils, except butter, were imposed December 13 by Leon Henderson, OPA, in a temporary schedule reducing prices to the level of November 26. The schedule prohibited the sale, whether "spot" or "future," or raw, crude, or refined, sold in tank cars, drums, tierces, and sacks, at prices above those prevailing November 26. The ceiling applied to all stages of distribution, except retail. Processed or finished fats and oil products were not covered by the schedule. Also excluded were essential oils, mineral and chemical oils.

Mr. Henderson explained that the schedule was designed to meet an emergency condition and was imposed to prevent serious inflation and price spiraling due to specula-

CITRONELLA—JAVA

A complete and authoritative study of Java citronella oil is scheduled for appearance in the February, March and April issues of SOAP AND SANITARY CHEMICALS. The author is Dr. Ernest Guenther, technical expert and primary market investigator for Fritzsche Bros.

IF *Better Odor*

CAN IMPROVE THE SALES OF YOUR PRODUCT...

. . . then our chemists can make yours a better selling brand. Today, when scarcity of materials is forcing out old established formulas,—when good odor is more than ever a matter of **skilled blending** of a **limited** selection of materials,—especially under these circumstances can our long experience in the creation of sales compelling odor effects help your technical products attain competitive advantage in the busy year of 1942. Whatever your specialty may be, if better odor can help its sale, then our laboratories will gladly work with you toward making it one of next year's market leaders. But time is short . . . so please consult us . . . SOON.

Odorants and Deodorants for

INSECTICIDES

DISINFECTANTS

SPRAYS

CLEANING FLUIDS and NAPHTHAS

PARA BLOCKS

WAXES and POLISHES

and for all other Chemical, Sanitary or General Purposes

FRITZSCHE BROTHERS, Inc.

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BRANCH STOCKS

BOSTON CHICAGO LOS ANGELES ST. LOUIS TORONTO, CANADA MEXICO, D. F.

FACTORIES AT CLIFTON, N. J. AND SEILLANS (VAR) FRANCE

tive activity. November 26 was chosen as a basis of the price ceiling, he said, because prices on that date were free from distortions which later developed in the price relationship between the various fats and oils.

On December 16, three days after the schedule was imposed, Mr. Henderson announced that "hardship cases," which had been pointed out by Congress as inevitable results of the schedule, were being investigated. "If our investigations show things in the schedule contrary to public interests, modifications will be made," he stated. Upon completion of studies of the effects of the price ceiling, the OPA plans to develop and issue a revised schedule of a more permanent nature.

P. & G. Sample "Duz"

Procter & Gamble Co. is reported using a new technique in conducting a current door-to-door sampling campaign on behalf of "Duz," soap powder. As the distributor starts his sales talk he opens the package and pours some of the powder into the housewife's hand, his purpose being to get her to try it at once. In many homes, the company holds, there may be unopened sample boxes of soap powder waiting trial. If the package is opened, it is more likely to be tested at once, they feel.

Deupree B & O Director

Richard R. Deupree, president of Procter & Gamble Co., Cincinnati, was recently elected a director of Baltimore & Ohio Railroad Co. In addition to heading Procter & Gamble, Mr. Deupree is president of Buckeye Cotton Oil Co., and of Procter & Gamble Distributing Co. He is also chairman of the board of Hewitt Soap Co., and of Thomas Hedley & Co.

Adams With Standard Brands

James S. Adams, former executive vice-president of Colgate-Palmolive-Peet Co., Jersey City, was recently elected president and chief executive officer of Standard Brands, Inc.

Magnus Heads Board of Trade

Percy C. Magnus, president, Magnus, Mabee & Reynard, Inc., New York, has just been elected for a second term as president of the New York Board of Trade. His first term as president was from 1933 to 1938. J. J. Toohy, E. R. Squibb & Sons, New York, was elected a vice-president of the Board of Trade.

P. C. MAGNUS

Naugatuck Moves N. Y. Office

The New York office of Naugatuck Aromatics, division of United States Rubber Co., was moved last month to 254 Fourth Ave. where it occupies the 11th floor. Former address of the division was 12 E. 22nd St. In addition to the office of the company, the perfume compound laboratories and certain stocks of bulk materials were also moved to the new location.

Spanish Soap Industry

As the 1940-41 olive-oil crop is now being distributed, it has been possible for many of the soap manufacturers in Spain to increase production; output of factories in the southern areas has increased to about 80 per cent of normal. The important factories in Catalona and the north, which normally depend upon coconut oil and tallow, are still confronted with an insufficient supply of these products.

Since much of the oil used for the manufacture of soap is purchased clandestinely, and at prices above those fixed by the government, plants have been producing a larger percentage of toilet soap, which can be marketed at more profitable prices, in spite of heavier taxes,—and a relatively insignificant amount of laundry soap. As a result, toilet soap is relatively plentiful, while there is a serious shortage of laundry soap. This condition induced the Ministry of Industry and Commerce to issue an order last June prohibiting the manufacture of toilet soap. *Chem. Trade J. & Chem. Engineer* **109,** 216 (1941).

Set Bleaching Powder Prices

Prices of bleaching powder for 1942 were stabilized by the OPA last month in a series of individual agreements with producers. The present ceilings are temporary and will be replaced by more formal ceiling action at a later date, it is anticipated. The temporary ceilings are 25 cents a hundred pounds higher than the 1941 level. Maximum prices for carload lots set by the agreements are as follows: in 800-lb. drums, $2.25 a hundred; in 333-lb. drums, $2.50 a hundred, and in 100-lb. drums, $3.10 a hundred. An additional 25 cents may be charged for deliveries of 5 drums or more, and an additional 50 cents for less than 5 drums.

Fischer Recovers from Illness

William Fischer, sales manager of Magnus, Mabee & Reynard, Inc., New York, perfuming materials, has just returned to active duty following a severe seige of pneumonia. Bill is a veteran of thirty-four years with the Magnus organization, having served under the elder P. C. Magnus, father of the present M. M. & R. head, back when the company operated as Magnus & Lauer.

Shulton Holds Xmas Party

More than 800 executives and employees of Shulton, Inc., New York, attended the fourth annual Christmas party of the company, held December 20, at the Hotel Astor, New York. A luncheon at the Belvedere Roof was followed by dancing.

A BIG HELP IN THE KITCHEN!

Cooks . . . old and young . . . all face the same problem today. Olive oil has gone sky-high in price . . . yet its flavor is essential for the proper preparation of so many dishes.

C. F. Simonin's Sons of Philadelphia have come to the rescue! Olio Simonini . . . a salad oil with a base of 20% of the finest virgin olive oil obtainable . . . gives home and restaurant kitchens an oil with the flavor and aroma of imported olive oil . . . and at only about a quarter the price.

Crown Cans provide perfect protection for Olio Simonini that combines the superb flavor of fine olive oil and peanut oil with a moderate price. It's a golden can by Crown that guards the golden goodness within until Olio Simonini reaches the home.

Why not bring your packaging problems to Crown Can . . . where the right solution will be provided.

CROWN CAN COMPANY, PHILADELPHIA, PA., *Division of Crown Cork and Seal Company,* Baltimore • St. Louis • Houston • Madison • Orlando • Fort Wayne • Nebraska City

INDEPENDENT AND HELPFUL CROWN CAN

CONTRACTS AWARDED

Army Soap Awards

In a recent opening by the Chicago Quartermaster Depot, Colgate-Palmolive-Peet Co., Jersey City, was awarded a contract for 278,880 cakes of soap at $12,912.14; Haskins Bros. & Co., Omaha, 156,900 cakes at $5,351.86 and Fairchild Soap Co., Chicago, 22,600 cakes at $525.79.

Metal Cleaner Award

Cowles Detergent Co., Cleveland, in a recent opening by the Army Ordnance Supplies, Rock Island Arsenal, Ill., was awarded a contract for 100,000 lbs. metal cleaner, R. I. A. No. 3, in 100-lb. one-way shippers at $50.70 M lbs.

Floor Oil Award

In a recent opening by the Army Air Corps Supplies, Wright Field, O., American Lubricants Co., Dayton, O., was awarded a contract for 14,500 gals. floor oil at 19.65c dom. 14 M gals. and 26.65c exp. 500 gals.

Rust Preventive Award

Dearborn Chemical Co., Chicago, was recently awarded a contract by the Chicago Quartermaster Depot for 200,160 lbs. rust preventive compound at $16,012.80.

Washing Compound Award

Magnus Chemical Co., Garwood, N. J., recently received an award from the Army Ordnance Dept. for washing compound at $1,915.60.

Cleaning Supplies Award

The following awards were made in a recent opening by the Army Quartermaster Corps, Seattle, Wash.: N. Brittingham & Sons, Phila., 6,000 cakes grit soap, 8c ea. and 1,000 boxes salt water soap, $8.00 ea.; Pacific Brewing & Malting Co., Seattle, 6,000 lbs. scouring powder, 2.5c lb., 5,000 bars laundry soap at 3.9c ea. and 3,600 bars toilet soap at 1.85c ea.; North Coast Chemical & Soap Works, Seattle, 9,600 lbs. powdered soap, 4.12c lb.

Rust Preventive Award

R. M. Hollingshead, Camden, N. J., in a recent opening by the Army Ordnance Supplies, Picatinny Arsenal, N. J., was awarded a contract for 110,320 lbs. rust preventive compound, light, in 5-lb. cans at 7.2c lb.

Air Corps Award

Dearborn Chemical Co., Chicago, in a recent opening by the Army Air Corps Supplies, Wright Field, O., was awarded a contract for 73,000 lbs. rust preventive compound at 7c dom. and 8c exp.

Army Soap Awards

In a recent opening by the Army Quartermaster Corps, Ft. Mason, Calif., the following awards were made: Colgate-Palmolive-Peet Co., Berkeley, Calif., 45,000 lbs. powdered laundry soap at 9.6c lb.; Pioneer Soap Co., San Francisco, 40,000 lbs. powdered laundry soap at 9.53c. In an opening by the quartermaster at New Orleans, Procter & Gamble Dist. Co., Memphis, was awarded a contract for 500,000 6-oz. cakes, white floating soap at 3.55c.

Soap Award

In a recent opening by the War Dept., Jersey City, Harris Soap Co., Buffalo, was awarded a contract for one lot of powdered soap at $10,800 and another lot at $7860.

Gillam Receives Soap Order

Gillam Soap Works, Fort Worth, Texas, was awarded contracts for 538,000 pounds of laundry bar and powdered soap in recent openings by the Army Quartermaster Corps, Ft. Sam Houston, Texas. E. O. Gillam, manager, described the orders as the largest in his plant's history. Deliveries are as follows: 400,000 pounds laundry bar soap for Ft. Sam Houston; 17,000 pounds powdered soap for Camp Bowie; 30,000 pounds powdered soap for Camp Hulen, Texas; 65,000 pounds powdered soap for Ft. Sam Houston, and 26,000 pounds powdered soap for Ft. Huachuca, Ariz.

Glycerine Award

In a recent opening by the Ordnance Dept., Washington, D. C., Conray Products Co., New York, was awarded a contract for glycerine at $16,900.

Q.M.C. Soap Awards

In a recent opening by the Army Quartermaster Corps, Chicago, the following awards were made: Day & Frick, Phila., 63,000 cakes grit soap at 2.78c ea.; Fairchild Soap Co., Chicago, 72,000 cakes grit soap at 2.4c ea.; Colgate-Palmolive-Peet Co., Jersey City, 106,020 cakes laundry soap, 1.466c ea.

FTC Drops Stiefel Complaint

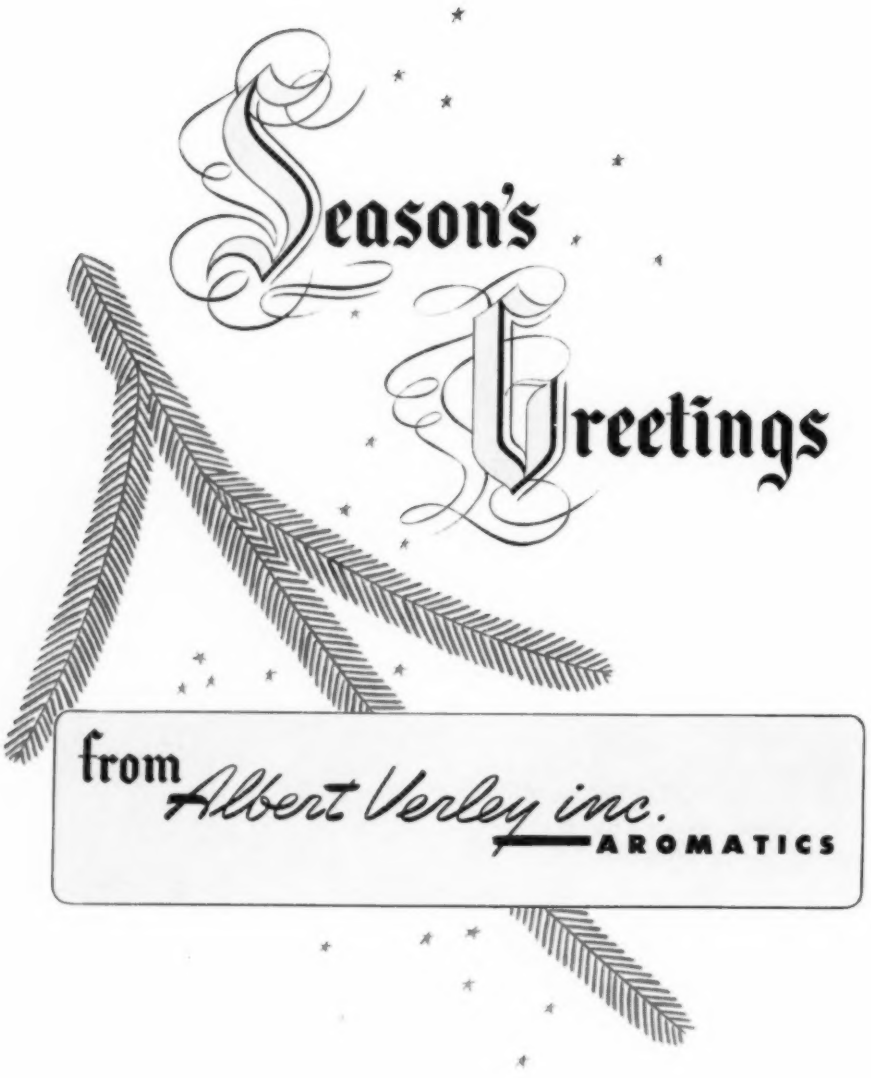
The Federal Trade Commission recently dismissed a complaint charging Stiefel Medicinal Soap Co. and August Stiefel, Preston Hollow, N. Y., with violation of the Federal Trade Commission Act in the sale of their products.

Tombarel Products Moves

Tombarel Products Corp., New York, moved last month to new quarters at 12 East 22nd St., where increased floor space will provide for more storage and larger laboratory facilities. Former address of the company was 9 East 19th St. where offices had been located for five years.

New Diamond Silicate Plant

Diamond Alkali Co. of Texas recently completed its new plant for making silicate of soda and other silicate products at Dallas, and is operating it at full capacity. The new plant is located at South Lamar and Lenway Streets.



ALBERT VERLEY, INC., D. A. Bennett, *President* • 1621 CARROLL AVE., CHICAGO, ILL.
114 EAST 25th ST., NEW YORK • MEFFORD CHEMICAL COMPANY, LOS ANGELES

NEW TRADE MARKS

The following trade-marks were published in the December issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Marks Filed

BLUE DEW—This in solid letters describing cleanser. Filed by Blue Dew Corp., Buffalo, Aug. 7, 1941. Claims use since May, 10, 1935.

SHAM-RU—This in solid letters describing rug shampoo. Filed by Tandy W. Piatt, Chicago, Oct. 13, 1941. Claims use since Sept. 7, 1938.

BLUEBROOK — This in script letters describing cleanser. Filed by Jewel Food Stores, Chicago, Oct. 15, 1941. Claims use since July 20, 1939.

HUVUH—This in solid letters over words "Tintergent" describing shampoo. Filed by Sales Affiliates, New York, Aug. 21, 1941. Claims use since Aug. 14, 1941.

LOG ROLLERS—This in solid letters over drawing of mosquito describing mosquito dope. Filed by Molitor Drug Co., St. Cloud, Minn., Oct. 10, 1941.

20TH CENTURY—This in outline letters inside fanciful panel describing auto polish and wax. Filed by 20th Century Chemical Co., Camden, N. J., June 7, 1940. Claims use since Feb. 1, 1937.

V B—This in outline letters over drawing of venetian blind describing cleaner for venetian blinds. Filed by Windsor Wax Co., New York, Jan. 9, 1941. Claims use since Aug. 9, 1940.

VALENE—This in script letters describing shampoo. Filed by Carrel Ltd., Chicago, Oct. 1, 1941. Claims use since Jan. 13, 1938.

PAR-O-SAN—This in solid letters describing insecticide. Filed by Dr. Salsbury's Labs., Charles City, Iowa, Oct. 8, 1941. Claims use since Sept. 5, 1941.

CHIGS—This in solid letters describing insect repellant. Filed by M. C. Labs., Inc., Coffeyville, Kans., Sept. 30, 1941. Claims use since June 1, 1940.

SUL-PHYTOCIDE—This in solid letters describing athlete's foot preparation. Filed by Ridgefield Chemical Co., New York, Apr. 28, 1941. Claims use since 1924.

WHAM—This in solid letters inside panel describing pipe cleaner. Filed by Wham Products Corp., New York, May 21, 1941. Claims use since July 15, 1939.

20TH CENTURY—This in outline letters inside fanciful panel describing cleaner and polisher. Filed by 20th Century Chemical Co., Camden, N. J., June 7, 1940. Claims use since Feb. 1, 1937.

WAXIDE—This in solid letters describing soaps and cleaners. Filed by Flare Labs., Chicago, May 28, 1941. Claims use since Jan. 15, 1939.

FOOTSO—This in script letters describing soap. Filed by Joseph Metrie, Milwaukee, Aug. 2, 1941. Claims use since May 1, 1941.

ESQUIRE—This in outline letters inside fanciful circular design describing cleaner and polish. Filed by Knomark Mfg. Co., Bklyn., Aug. 29, 1941. Claims use since Aug. 26, 1941.

MILLE FLEURS—This in solid letters describing soap. Filed by Elizabeth Arden Sales Corp., New York, Oct. 16, 1941. Claims use since June 24, 1940.

PIERCE'S FUNGI-SOL—This in script and solid letters describing athlete's foot preparation. Filed by Pierce Prods. Co., High Point, N. C., May 28, 1941. Claims use since Jan. 1, 1941.

KILLICIDE—This in solid letters describing insecticide. Filed by Roberson & Sons, Cleveland, Aug. 28, 1941. Claims use since Aug. 15, 1941.

DENTA-KRAYON—This in solid letters describing tooth cleaning compound. Filed by Cape Ann Lab., Gloucester, Mass., Sept. 17, 1941. Claims use since Sept. 10, 1941.

MON RAY—This in outline letters inside circular design describing athlete's foot preparation. Filed by Mon Ray Chemical Co., Forest City, N. C., Oct. 1, 1941. Claims use since July 1, 1941.

METHARGOL—This in outline letters inside semi-circle describing antiseptic. Filed by A. A. Feist, V.M.D., St. Paul, Minn., Oct. 29, 1941. Claims use since June, 1913.

RAM—This in solid letters reading vertically and horizontally describing rat and mouse bait. Filed by Anchor Prods. Co., Minneapolis, Oct. 31, 1941. Claims use since Sept. 27, 1941.

Q S — This in solid letters superimposed on the words "Quality System" describing cleaner. Filed by The Tubbs Co., River Falls, Wisc., Mar. 17, 1941. Claims use since Aug. 16, 1940.

PEER—This in script letters inside fanciful design describing shampoo. Filed by Conneaut Chemical Co., Monessen, Pa., Aug. 11, 1941. Claims use since July 15, 1940.

DRAIN PEP — This in script letters inside oblong design describing drain cleaner. Filed by Radiator Specialty Co., Charlotte, N. C., Sept. 8, 1941. Use since June 1, 1940.

MOOR MAN'S—This in solid letters describing poultry insecticides. Filed by Moorman Mfg. Co., Quincy, Ill., Oct. 15, 1941. Claims use since Jan. 1922.

SHAM-DO—This in solid letters describing animal shampoo. Filed by Tandy W. Piatt, Chicago, Oct. 15, 1941. Claims use since Sept. 7, 1938.

Trade Marks Granted

390,858. Soap. Botany Worsted Mills, Passaic, N. J. Filed May

ANTOINE CHIRIS

Antoine Chiris was established in France in 1768 and all through these years pioneered in the development of its long-known worldwide organizations. The American branch was established in New York in 1899.

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ANTOINE CHIRIS, LTD., LONDON, ENGLAND

21, 1941. Serial No. 443,715. Published July 29, 1941. Class 4.

390,859. Insecticides. Gero Prods. Co., South Boston, Mass. Filed May 21, 1941. Serial No. 443,758. Published July 29, 1941. Class 6.

390,860. Insecticides. Destruxol Corp., Pasadena, Calif. Filed May 21, 1941. Serial No. 443,756. Published July 22, 1941. Class 6.

391,141. Insect repellent. National Associated Distributors, New York. Filed Apr. 17, 1940. Serial No. 430,873. Published July 23, 1940. Class 6.

391,144. Motor cleaner. 20th Century Chemical Co., Camden, N. J. Filed June 7, 1940. Serial No. 432,800. Published Aug. 12, 1941. Class 6.

391,148. Foot powders. Fleetfoot Co., Chicago. Filed July 26, 1940. Serial No. 434,362. Published Oct. 15, 1940. Class 6.

391,155. Germicides and disinfectants. Walnut Grove Prods. Co., Atlantic, Ioda. Filed Nov. 25, 1940. Serial No. 438,226. Published Aug. 19, 1941. Class 6.

391,174. Insecticides. California Spray-Chemical Corp., Wilmington, Del. Filed Apr. 9, 1941. Serial No. 442,408. Published Aug. 12, 1941. Class 6.

391,218. Insecticide. Walter K. Angevine, Washington, D. C. Filed May 23, 1941. Serial No. 443,831. Published Aug. 12, 1941. Class 6.

391,267. Mothproof. Zonite Prods. Corp., New York. Filed June 25, 1941. Serial No. 444,846. Published Aug. 19, 1941. Class 6.

391,268. Mothproof. Zonite Products Corp., New York. Filed June 25, 1941. Serial No. 444,847. Published Aug. 19, 1941. Class 6.

391,269. Metal polish. Conrad Wolff, Irvington, N. J. Filed June 26, 1941. Serial No. 444,851. Published Aug. 19, 1941. Class 4.

391,270. Soap pads. Club Aluminum Prods. Co., Chicago. Filed June 27, 1941. Serial No. 444,896. Published Aug. 19, 1941. Class 4.

391,295. Wash powder. National Cleaning Prods. Co., Columbus, O. Filed June 5, 1941. Serial No. 444,220. Published Aug. 19, 1941. Class 4.

391,303. Mouth wash. S. S. White Dental Mfg. Co., Phila. Filed June 6, 1941. Serial No. 444,292. Published Aug. 19, 1941. Class 6.

391,408. Soap powder. Cumulus Co., Peru, Ind. Filed June 26, 1941. Serial No. 444,860. Published Aug. 26, 1941. Class 4.

391,413. Auto wash. Chemical Prods. Corp. of America, Chicago. Filed June 28, 1941. Serial No. 444,929. Published Aug. 26, 1941. Class 4.

391,460. Tire cleaner. Bona-Kleen Co., Los Angeles. Filed Mar. 15, 1941. Serial No. 441,564. Published Sept. 2, 1941. Class 4.

391,477. Chemical cleaning cloths. Murray Chemical Co., Dallas. Filed May 12, 1941. Serial No. 443,512. Published Sept. 2, 1941. Class 4.

391,482. Detergent. National Oil Prods. Co., Harrison, N. J. Filed May 17, 1941. Serial No. 443,666. Published Sept. 2, 1941. Class 4.

391,512. Cleaner. G. F. Brown Co., Phila. Filed June 24, 1941. Serial No. 444,788. Published Sept. 2, 1941. Class 4.

391,562. Disinfectants. G. E. Conkey Co., Cleveland. Filed Jan. 10, 1940. Serial No. 427,298. Published July 16, 1940. Class 6.

391,566. Insecticides. Agricultural Laboratories, Columbus, O. Filed Mar. 13, 1940. Serial No. 429,508. Published Sept. 2, 1941. Class 6.

391,598. Foam producing compound. John A. Honegger, Bloomfield, N. J. Filed Mar. 12, 1941. Serial No. 441,470. Published Sept. 9, 1941. Class 4.

391,612. Tinct. of green soap. Abraham L. Schein, New York. Filed Apr. 21, 1941. Serial No. 442,918. Published Sept. 9, 1941. Class 6.

391,617. Mouth wash. Ridgefield Chemical Co., New York. Filed Apr. 28, 1941. Serial No. 443,056. Published Sept. 9, 1941. Class 6.

391,633. Insecticide. Destruxol Corp., Pasadena, Calif. Filed May 21, 1941. Serial No. 443,749. Published Sept. 9, 1941. Class 6.

391,654. Pyrethrum. Greene Trading Co., New York. Filed June 7, 1941. Serial No. 444,302. Published Aug. 26, 1941. Class 6.

391,686. Disinfectants. Chemical Research Products Co., Phila. Filed June 21, 1941. Serial No. 444,723. Published Sept. 9, 1941. Class 6.

391,714. Antiseptic powder. Coronet Chemical Co., Allenwood, N. J. Filed July 12, 1941. Serial No. 445,287. Published Sept. 9, 1941. Class 6.

391,717. Disinfectants. Alex. C. Fergusson Co., Phila. Filed July 14, 1941. Serial No. 445,324. Published Sept. 9, 1941. Class 6.

391,773. Cleaner. Clan Mfg. Co., Camden, N. J. Filed Aug. 7, 1940. Serial No. 434,738. Published Sept. 16, 1941. Class 4.

391,784. Floor Wax. Davies-Young Soap Co., Dayton, O. Filed Jan. 22, 1941. Serial No. 439,858. Published Sept. 16, 1941. Class 16.

391,870. Metal Cleaner. Turco Prods., Los Angeles. Filed July 16, 1941. Serial No. 445,401. Published Sept. 16, 1941. Class 4.

391,910. Insecticides. Andrew Wilson, Inc., Springfield, N. J. Filed Sept. 16, 1938. Serial No. 410,677. Published Nov. 15, 1938. Class 6.

391,924. Mouth Wash. Lilly Dental Corp., Lebanon, Ind. Filed Oct. 2, 1940. Serial No. 436,373. Published Nov. 12, 1940. Class 6.

391,925. Insecticide. Beaumont Chemical Co., Houston, Tex. Filed Oct. 28, 1940. Serial No. 437,351. Published Sept. 16, 1941. Class 6.

391,938. Cleaner. Brulin & Co., Indianapolis. Filed Apr. 4, 1941. Serial No. 442,252. Published Sept. 23, 1941. Class 4.

391,942. Insecticide. Silmo Chemical Corp., Vineland, N. J. Filed May 14, 1941. Serial No. 443,581. Published Sept. 16, 1941. Class 6.

391,944. Insecticide. Destruxol Corp., Pasadena, Calif. Filed May 21, 1941. Serial No. 443,750. Published Sept. 16, 1941. Class 6.

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PLASTIC replaces metal in the New Streamlined PEER No. 50. We waited until the experimental stage was past and Plastic met our exacting tests before adapting it. Strength is not impaired and color and style are improved. Metal is released for defense.

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Manufacturers of Soap Dispensers and Dispensing Equipment

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RAW MATERIAL MARKETS

As of December 27, 1941

NEW YORK—Ceiling prices on all oils and fats used in soap making, ceiling prices on carnauba wax, beeswax, candelilla wax and ouricury wax, stabilization of the prices of natural resins and shellac, freezing of stocks of industrial alcohol and other solvents, and advances in the prices of para- and ortho-dichlorbenzene and bleaching powder were developments during the month of importance to the manufacturer of soap and sanitary products. The establishment of ceiling prices on oils, which took place five days after the Japanese attack on U. S. Pacific possessions, on the basis of November 26 prices, met with strong opposition by Southern senators in Washington. Subsequently prices prevailing October 1 were adopted as the basis of a revised ceiling. Business in the market for oils and fats came practically to a halt following imposition of the ceiling prices, sellers withdrawing from the market pending a change in the price schedule, as many products had been advanced between November 26 and December 13. Some business was reported in commodities which had not changed in price since November 26. No prices are being quoted on imported oils. The outbreak of open warfare in the Pacific Ocean brought numerous advances in the prices of essential oils originating in that area, and the trend was definitely upward among essential oils in general.

Among the chemicals, bleaching powder was stabilized by the OPA at a temporary ceiling of 25 cents per hundred pounds above the 1941 level. Temporary maximum prices range from $2.25 per 100 pounds, car lots, in 300-lb. drums, to $3.60 per 100 pounds, less than 5 drum shipments, in 100-lb. drums. Paradichlorbenzene was advanced during the month by one producer to a basis of 13 cents a pound in car lots and 15 cents a pound, lcl. Orthodichlorbenzene was advanced ½ cent, making car lots 7½ cents and less car lots 8½ cents a pound.

Animal Fats

The price of tallow was advanced ¾ cent a pound in two successive days shortly after the attack on Pearl Harbor, but when the fats and oils price schedule was issued prices were dropped to the pre-war level, with business at an almost complete standstill. Current prices are: extra tallow, 3⅝ cents a pound, f.o.b. New York, and yellow grease, 3⅜ cents a pound. Practically no sales are being made, however, as offerings are light. Trading in lard futures was suspended temporarily.

Vegetable Oils

Importers and handlers of foreign oils withdrew from the market as soon as the price ceilings were imposed and continued inactive while awaiting revisions in the schedule. Revision of the schedule to a basis of October 1 prices still leaves a problem for handlers of the imported oils. Just before the price ceilings were imposed crude coconut oil was being quoted nominally at 9 cents a pound, or an advance of 1½ cents a pound over the pre-war level. Advances were applied to the other imported vegetable oils and to various domestic oils as well following the beginning of hostilities between the United States and Japan. Prices were not being quoted a week later, however, and even when prices were being mentioned they were strictly nominal with no offerings to back them up. With coconut oil future supplies problematical, some users are reported willing to pay high prices to get it.

LIMIT OIL FAT INVENTORIES

Processors of fats and oils were prohibited in an order issued by the OPM December 29 from receiving deliveries which would bring their total inventories to a figure above a 90-day operating supply. Oil users are given three alternatives for figuring their "operating supply": rate of operations during 30 days immediately preceding issuance of the order; rate during the corresponding month of previous year; average monthly operation during 1942. Users may select whichever figure is the highest and then multiply by three to get the permitted operating supply. The figure is an aggregate one and does not apply to a separate 90-day supply of each fat. Completion of present contracts is permitted. Essential oils are specifically excluded from the terms of the new order.

Essential Oils

Future supplies of essential oils from the Far East, including anise, cassia, cajeput, patchouli, citronella, lemongrass, palmarosa, artificial sassafras, cananga, safrol and vetiver, became extremely uncertain as war came to the lands of their origin. Prices on all such oils became nominal immediately and the remaining small stocks of these materials were withdrawn. Prices were also advanced on peppermint, spearmint, bois de rose, sweet almond, juniper tar, rosemary, clove and domestic orange.

—— • ——

Jungmann & Co., New York, industrial chemicals, moved on December 19, to 74 Trinity Place. Old address was 157 Chambers St.

—— • ——

Dr. L. E. Walter recently joined Gillam Soap Works, Fort Worth, Texas, as chemist and plant director.

"INDEX"

TO BETTER QUALITY SOAPS AND CLEANSERS

FOR	USE
Bath Crystal Preparations Bubble Bath Preparations Household Cleanser Preparations Soap Powders Commercial Cleansers	SOLVAY SNOWFLAKE CRYSTALS
Special Mixtures for Heavy Duty Cleaning	SOLVAY SUPER ALKALIES
Soaps Shaving Creams and Soaps Tooth Pastes Shampoos Liquid and Soft Soaps Automobile Soaps, etc.	SOLVAY CAUSTIC POTASH
Soap Heavy Duty Cleansers Commercial Metal Cleaners Drain Pipe Solvents	SOLVAY CAUSTIC SODA
Soap Powders Special Cleansing Mixtures	SOLVAY FLUF*
Soap Commercial Cleanser Mixtures Strong Soap Powders	SOLVAY 58% SODA ASH
Moth Control Deodorizing Preparations	SOLVAY PARA-DICHLOROBENZENE

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In the Solvay Laboratories, men with years of experience handle your alkali problems and make recommendations on the basis of laboratory findings. Solvay will be glad to send these specialists to your soap plant to study actual operating conditions and help adapt laboratory findings to specific plant conditions. Write today.

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* Reg. U. S. Pat. Off.

RAW MATERIAL PRICES

(As of December 27, 1941)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

Aceton, C.P., drums	lb.	$ .08½	$ .09
Acid, Boric, bbls., 99½%	ton	108.00	130.00
Cresylic, drums	gal.	.81	.86
Low boiling grade	gal.	.81	.86
Muriatic, C. P., carboys	lb.	.08	—
Oxalic, bbls.	lb.	.11¼	.14¼
Adeps Lanae, hydrous, drums	lb.	.29	.31
Anhydrous, drums	lb.	.30	.32
Alcohol, Ethyl, U.S.P., bbls.	gal.	7.92½	7.99
Complete Denat., SD1, dms., ex.	gal.	.33½	.38½
Alum. Potash lump, bbls.	lb.	.04½	—
Ammonia Water, 26°, drums	lb.	.02¼	.02½
Ammonium Carbonate, tech., bbls.	lb.	.08	—
Bentonite, 1, works, 325 mesh	ton	16.00	—
Bentonite, 2, works, 200 mesh	ton	11.00	—
Bleaching Powder, drums	100 lb.	2.25	3.60
Borax, pd., bbls., bags	ton	50.00	75.00
Carbon Tetrachloride, car lots	gal.	.73	1.17
L. C. L.	gal.	.80	1.27
Caustic, see Soda Caustic, Potash Caustic			
China Clay, filler	ton	9.50	16.00
Cresol, U.S.P., drums	lb.	.10¾	.11½
Creosote Oil	gal.	.13½	.14½
Feldspar, works (200 to 325 mesh)	ton	32.00	35.00
Formaldehyde, bbls.	lb.	.05½	.06¼
Fullers Earth	ton	8.50	15.00
Glycerine, C.P., drums	lb.	.18¼	.19¼
Dynamite, drums	lb.	.18¼	.18¾
Saponification, drums	lb.	.12¾	.14¾
Soap lye, drums	lb.	.11½	—
Hexalin, drums	lb.	.23	—
Lanolin, see Adeps Lanae.			
Lime, live, bbls.	ton	6.25	13.00
Mercury Bichloride, kegs	lb.	2.24	2.39
Naphthalene, ref. flakes, bbls.	lb.	.08	.08½
Nitrobenzene (Mirbane) drums	lb.	.08	.09
Orthodichlorbenzene	lb.	.07½	.08½
Paradichlorbenzene, drums	lb.	.13	.15
Petrolatum, bbls. (as to color)	lb.	.03½	.08
Phenol (Carbolic Acid) drums	lb.	.12½	.14¾
Pine Oils, bbls.	gal.	.65	.68
Potash, Caustic, solid	lb.	.06¼	.06¾
Flake, 88-92%	lb.	.07	.07¼
Liquid, 45% basis	lb.	.02⅞	.03¾
Potassium Carbonate, solid	lb.	.06½	.06¾
Liquid	lb.	.03⅛	.03
Pumice Stone, coarse	lb.	.03⅝	.04¼
Rosins (net wt., ex dock, New York)—			
Grade D to H	100 lb.	3.53	3.70
Grade I to N	100 lb.	3.53	3.70
Grade WG to X	100 lb.	4.25	4.30
Wood, ex. dock	100 lb.	3.12	4.03
Rotten Stone, pwd., bbls.	lb.	.12¾	.18¾
Silica	ton	20.00	27.00
Soap, Mottled	lb.	.04⅛	.04½
Olive Castile, bars	lb.	.28	38
Olive Castile, powder	lb.	.33	.40
Powdered White, Neutral	lb.	.18	.24
Olive Oil Foot, bars, 68-70%	lb.	—	—
Green, U.S.P.	lb.	.09	.10
Tallow Chips, 88%, car lots	lb.	.10½	.11⅛
Soda Ash, cont., wks., bags, bbls.	100 lb.	1.05	1.45
Car lots, in bulk	100 lb.	.90	.95
Soda Caustic, cont., wks., solid	100 lb.	2.30	—
Flake	100 lb.	2.70	2.95
Liquid, tanks, 47-49%	100 lb.	1.92½	1.95
Soda Sal., bbls.	100 lb.	1.10	1.30
Sodium Chloride (Salt)	ton	14.20	23.20
Sodium Fluoride, bbls.	lb.	.08	.09¼
Sodium Hydrosulfite, bbls.	lb.	.17	.18
Sodium Metasilicate, anhyd.	100 lb.	4.00	5.30
Granulated	100 lb.	2.50	3.55
Sodium Pyrophosphate	100 lb.	5.10	6.80
Sodium Silicate, 40 deg., drum	100 lb.	.80	1.20
Drums, 52 deg. wks.	100 lb.	1.40	1.80
Tar Acid Oils, 15-25%	gal.	.22	.29½
Triethanolamine	lb.	.19	.20
Trisodium Phosphate, bags, bbls.	100 lb.	2.85	3.80
Zinc Oxide, lead free	lb.	.06½	.07

Oils — Fats — Greases

Babassu, tanks, futures	lb.	—	Nom.
Castor, No. 1, bbls.	lb.	.13¼	.14¼
No. 3, bbls.	lb.	.13	.14
Coconut (without excise tax)			
Manila, tanks, N. Y.	lb.	—	Nom.
Tanks, Pacific Coast, futures	lb.	—	Nom.
Copra, bulk, coast	lb.	—	Nom.
Corn, tanks, West	lb.	—	—
Cottonseed, crude, tanks, mill	lb.	—	—
PSY, futures	lb.	—	—
Fatty Acids—			
Corn Oil, tanks, Chicago	lb.	.14¼	.14½
Coconut Oil, tanks, Twitchell, Chi.	lb.	.15¾	.16
Cotton Oil, tanks, Chicago	lb.	.13½	.13¾
Settled soap stock, Chicago	lb.	.03½	.03⅝
Boiled soap stock, 65%, Chi.	lb.	.04½	.04⅝
Foots, 50%, Chicago	lb.	.03½	.03¾
Red Oil, bbls., dist. or sapon.	lb.	.12	.13
Tanks	lb.	.11¼	—
Stearic Acid, saponif.			
Double pressed	lb.	.14½	.15½
Triple pressed	lb.	.17¼	.18¼
Greases, choice white, tanks	lb.	.09	—
Yellow	lb.	.08⅜	—
Lard, city, tubs	lb.	.11⅛	.11¼
Linseed, raw, bbl.	lb.	—	—
Tanks, raw	lb.	—	—
Olive, denatured, bbls., N. Y.	gal.	4.00	Nom.
Foots, bbls., N. Y.	lb.	.17	.17½
Palm, Sumatra, cif. New York, Tanks	lb.	—	—
Palm, kernel, f.o.b. San F.	lb.	—	Nom.
Peanut, crude, tanks	lb.	.11⅝	.11⅞
Soya Bean, domestic, tanks, crude	lb.	.09¾	.10
Stearin, oleo, bbls.	lb.	—	—
Tallow, special, f.o.b. N. Y.	lb.	.08½	—
City, ex. loose, f.o.b. N Y.	lb.	.08⅝	—
Teaseed Oil, crude	lb.	.30	Nom.
Whale, refined	lb.	.1070	Nom.

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•

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Liquid Coconut Oil Soap Shampoo
Liquid Castile Soap Shampoo
Shampoo Base (Olive Oil & Coconut Oil)
Oil Soaps Scrubbing Soaps

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56 Richards St. Brooklyn, N. Y.

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Like many other manufacturers and distributors in these stirring times we find ourselves more often than we like "unable to fill your order for . . ." • If and when you get this word from us you may be sure that our regret is as keen as your own • On the outcome of our country's present military effort depends not only the continuance of our way of life, but also our very existence as a great nation • Thus in *your* interest—in the interest of every *one* of us—our *first* obligation is to our Government • At the same time we want you to understand that, subject only to that *first* obligation, we will do, and *are doing* our level best to keep our customers supplied in their civilian needs.

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(As of December 27, 1941)

Essential Oils

Almond, Bitter, U.S.P.	lb.	$3.50	$3.75
Bitter, F.F.P.A.	lb.	4.75	5.00
Sweet, cans	lb.	2.35	2.45
Anise, cans, U.S.P.	lb.	2.00	Nom.
Bay, 55-66% phenols, cans	lb.	1.35	1.60
Bergamot, coppers	lb.	32.00	Nom.
Artificial	lb.	2.95	9.25
Birch Tar, rect., cans	lb.	1.50	—
Crude, cans	lb.	.90	—
Bois de Rose, Brazilian	lb.	4.50	4.75
Cayenne	lb.	—	—
Cade (juniper tar), cans	lb.	.80	.95
Cajeput, native, cans	lb.	1.75	Nom.
Calamus, cans	lb.	—	—
Camphor, Sassy, drums	lb.	.40	Nom.
White, drums	lb.	.43	Nom.
Cananga, native, cans	lb.	13.50	14.00
Rectified, cans	lb.	14.50	15.00
Caraway Seed	lb.	15.00	Nom.
Cassia, Redistilled, U.S.P.	lb.	10.00	Nom.
Cedar Leaf, cans	lb.	1.10	1.40
Cedar Wood, light, drums	lb.	.33	.34
Citronella, Java, drums	lb.	1.65	Nom.
Citronella, Ceylon, drums	lb.	1.10	Nom.
Clove, U.S.P., cans	lb.	—	—
Eucalyptus, Austl., U.S.P., cans	lb.	.75	.80
Fennel, sweet, cans	lb.	2.50	2.75
Geranium, African, cans	lb.	17.00	Nom.
Bourbon, cans	lb.	17.00	Nom.
Turkish (Palmarosa)	lb.	4.00	Nom.
Hemlock, tins	lb.	.95	1.15
Lavender, 30-32% ester, cans	lb.	—	—
Spike, Spanish, cans	lb.	2.85	3.10
Lemon, Ital., U.S.P.	lb.	5.50	Nom.
Cal.	lb.	3.25	—
Lemongrass, native, cans	lb.	3.00	Nom.
Linaloe, Mex., cases	lb.	3.50	3.75
Nutmeg, U.S.P., cans	lb.	2.50	2.60
Orange, Sweet, W. Ind., cans	lb.	4.75	6.00
Italian cop	lb.	8.00	Nom.
Distilled	lb.	1.70	—
California, expressed	lb.	3.00	—
Origanum, cans, tech	lb.	2.85	2.90
Patchouli	lb.	5.50	6.00
Pennyroyal, dom.	lb.	2.50	2.65
Imported	lb.	2.40	2.50
Peppermint, nat., cans	lb.	7.00	7.25
Redis., U.S.P., cans	lb.	7.25	7.50
Petitgrain, S. A., cans	lb.	1.70	1.75
Pine Needle, Siberian	lb.	2.60	2.70
Rosemary, Spanish, cans	lb.	2.25	2.35
drums	lb.	2.20	2.30
Sandalwood, E. Ind., U.S.P.	lb.	5.40	5.50
Sassafras, U.S.P.	lb.	1.05	1.20
Artificial, drums	lb.	—	—
Spearmint, U.S.P.	lb.	3.25	3.50
Thyme, red, N. F.	lb.	1.85	2.20
White, N. F.	lb.	1.95	2.35
Vetiver, Java	lb.	28.00	Nom.
Ylang Ylang, Bourbon	lb.	20.00	24.00

Aromatic Chemicals

Acetophenone, C. P.	lb.	$1.55	$1.60
Amyl Cinnamic Aldehyde	lb.	1.90	2.00
Anethol	lb.	1.15	1.60
Benzaldehyde, tech.	lb.	.45	Nom.
N. F. VI	lb.	.85	.95
Benzyl, Acetate	lb.	.58	Nom.
Alcohol	lb.	.68	.98
Citral	lb.	3.00	4.00
Citronellal	lb.	3.50	Nom.
Citronellol	lb.	3.70	Nom.
Citronellyl Acetate	lb.	—	Nom.
Coumarin	lb.	2.75	3.25
Diphenyl oxide	lb.	.43	.50
Eucalyptol, U.S.P.	lb.	1.50	1.60
Eugenol, U.S.P.	lb.	2.40	2.50
Geraniol, Soap	lb.	1.10	1.50
Other grades	lb.	1.50	3.50
Geranyl Acetate	lb.	1.50	2.50
Heliotropin	lb.	5.25	6.00
Hydroxycitronellal	lb.	5.90	Nom.
Indol, C. P.	lb.	28.00	30.00
Ionone	lb.	2.75	3.95
Isoborneol	lb.	.90	1.07
Iso-bornyl acetate	lb.	.80	.95
Iso-Eugenol	lb.	3.15	4.25
Linolool	lb.	5.50	7.50
Linalyl Acetate	lb.	5.50	Nom.
Menthol, natural	lb.	14.00	16.00
Synthetic, U.S.P.	lb.	—	—
Methyl Acetophenone	lb.	2.50	3.00
Anthranilate	lb.	—	—
Paracresol	lb.	4.50	6.00
Salicylate, U.S.P.	lb.	.35	.40
Musk Ambrette	lb.	3.85	4.20
Ketone	lb.	4.00	4.35
Xylol	lb.	1.25	1.55
Phenylacetaldehyde	lb.	4.00	Nom.
Phenylacetic Acid	lb.	1.85	Nom.
Phenylethyl Alcohol	lb.	2.10	2.50
Rhodinol	lb.	30.00	35.00
Safrol	lb.	1.60	1.75
Terpineol, C.P., drs.	lb.	.27	—
Cans	lb.	.30	—
Terpinyl Acetate, 25 lb. cans	lb.	—	—
Thymol, U.S.P.	lb.	3.00	—
Vanillin, U.S.P.	lb.	2.60	2.75
Yara Yara	lb.	1.80	1.85

Insecticide Materials

Insect Powder, bbls.	lb.	.21	.23
Pyrethrum Extract			
5 to 1	gal.	1.15	1.20
20 to 1	gal.	4.30	4.40
30 to 1	gal.	6.35	6.50
Derris, powder—4%	lb.	.35	.37
Derris, powder—5%	lb.	.38	.40
Cube, powder—4%	lb.	.35	.37
Cube, powder—5%	lb.	.38	.40
Squill, red, dried	lb.	.58	.60

Waxes

Bees, white	lb.	.56	.58
African, bgs.	lb.	.46	.47
Refined, yel.	lb.	.51	.52
Candelilla, bgs.	lb.	.33	.35
Carnauba, No. 1, yellow	lb.	.86	.87
No. 2, N. C.	lb.	.84	.85
No. 3, Chalky	lb.	.76	.77
Ceresin, yellow	lb.	.13½	.18
Montan Wax, bags	lb.	.45	.46
Paraffin, ref., 125-130	lb.	.0520	.0560

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PRODUCTION SECTION

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, Oil & Fat Industries.

Soap Stabilization

THE present trend toward production of more rapidly soluble soaps may make desirable a product containing material proportions of potassium soaps. However, it has been found that the usual soap preservatives generally have an inadequate stabilizing effect on potassium soap. For example, the usual tin salts used with sodium soaps arrest the oxidation of potassium soap only temporarily.

Soaps formed from fats and oils containing substantial proportions of unsaturated fatty acids are particularly unstable and susceptible to rancidity development. When *alpha*-stannic acid is incorporated in soap, it shows unexpected properties as an inhibitor and stabilizer. Added in relatively small amounts, this compound prevents or substantially retards rancidity development of even the most unstable soaps, including soaps formed from unsaturated fatty acids as well as potassium soaps. At the same time it tends to stabilize the color ingredients of bleached soaps against development of the discoloration which customarily accompanies rancidification. This desirable effect on color remains during storage of the soap, apparently indefinitely.

The mechanism of the stabilizing action of *alpha*-stannic acid is not fully understood. It may be that the action involves the property of this compound to maintain a finely dispersed colloidal form in the presence of moisture, also its property of forming very stable adsorption complexes with oxidation catalysts such as the heavy-metal iron and copper salts and hydrated oxides ordinarily present in traces in soaps. These salts and oxides accelerate the oxidation of soap and cause color deterioration. The relatively greater susceptibility of potassium soaps over sodium soaps to spoilage is intensified if soft, low-titer stocks are used.

Alpha-stannic acid is a very effective stabilizer for soaps, as shown by actual tests. For example, a soap containing 75 per cent of sodium tallow soap and 25 per cent of potassium coconut-oil soap, with the inclusion of 0.2 per cent of *alpha*-stannic acid, remained unaffected after 21 days of heating at 115-125° F. The same stock containing 0.2 per cent of stannic chloride and treated similarly, turned rancid after four days. A stock containing 0.2 per cent of stannous chloride turned rancid after one day of the same treatment.

The amount of *alpha*-stannic acid to be added to soap will necessarily be controlled by the amount of components present in the soap tending to oxidize or to become rancid. Under ordinary conditions, 0.1-1.0 per cent, or preferably 0.2-0.4 per cent, based on the soap stock may be used. The use of larger amounts gives even greater stability, but generally in an amount insufficient to merit the additional cost.

In the manufacture of framed soaps, the *alpha*-stannic acid may be added to the soap in the crutcher. With milled soaps, it is preferably added before the milling operation. In general, it can be added at any convenient stage where it will be dispersed uniformly throughout the soap. Incorporation of the compound in the form of a jelly provides an intimate dispersion. Perfume, coloring matter, and other ingredients may be added as desired.

Alpha-stannic acid is relatively non-corrosive as compared with stannic chloride, the latter having an undesirable corrosive action on the milling rolls. Lever Brothers & Unilever, Inc. British Patent No. 1,588; *through Perfumery & Essen. Oil Record* **32**, 276-7 (1941).

Tallowiness caused by the action of light and oxygen should be distinguished from rancidity induced chiefly, though not entirely,

by bacterial action in the dark. The ordinary analytical characteristics are not suitable for the evaluation of spoilage, but serve to follow the development of tallowiness. Absence of water does not delay tallowiness; ultraviolet light accelerates it, but is not indispensable for its appearance. Metallic salts accelerate it.

The lower acids, below C_{10}, are not formed from the higher unsaturated acids in this type of spoilage, such traces as are found being attributable to slight simultaneous rancidification. The suggestion that tallowiness involves a transformation into higher-melting stereoisomerides is not confirmed, at least as regards oleic acid, but the isolation of a substance regarded as responsible for tallowiness, resembling a commercial margarine emulsifier, may be related to the discovery of similar substances in drying-oil films. E. Glimm and H. Nowack. *Allgem. Oel- und Fett-Ztg.* **37,** 211-12.

Unsaponified Fat in Soap

Kerosene freed from organic acids, is the solvent in a volumetric determination of free fat in soaps. If the free fat content is not over 0.25 per cent, the method is accurate within 2-3 per cent. With a high free fat content accuracy suffers, but the determination is still adaptable to routine control of soap manufacture. S. N. Semenov and M. Zaliopo. *Masloboino-Zhirovaya Prom.* **16,** No. 5/6 70-1.

Superfatting Agent

A mixture of 2½ parts of sulfonated castor oil with one part of lanolin makes a creamy paste suitable for addition to soap in a proportion up to 1.5 per cent by weight. Such an inclusion prevents cracking and formation of a crust on the soap, serving as emollient and superfatting agent. The smooth surface of such a soap takes a high polish. The oil-lanolin mixture may be stabilized by the addition of 5 per cent of saturated boric acid solution. Some of the water-soluble vinyl resins are of interest for the same purpose. *Am. Perfumer* **43,** No. 1. 51-5 (1941).

Modern Soap Driers

With reference to driers, one of the latest designs consists of two revolving cylinders which are so equipped that they may be heated by steam, by gas, or by electricity, and which are in each case provided with the same scraping arrangements. Where electricity is used, the inner lining of the cylinders is furnished with heating elements suitably insulated.

The principal feature is that the temperature can be controlled within a few degrees. The machine itself is provided with a cooling device consisting of two water-cooled rollers, a set of which is fitted at either side of the main cylinder. As the liquid soap runs on to these cylinders it rotates with them and loses part of its moisture, after which it is lifted off the surfaces by means of scrapers and discharged onto cooling rolls in the form of chips. Drying can be regulated by the thickness of the layer, speed of rotation, and steam pressure applied.

In one plant layout, by working at a steam pressure of 28 pounds per square inch, chips are produced, while by reducing the pressure to 25 pounds per square inch and operating the cylinders at eight revolutions per minute, soap adapted for fine milling is obtained. By increasing the pressure to 5 pounds per square inch and suitably adjusting the speed of rotation and thickness of soap layer, a practically anhydrous soap is secured suitable for reduction to fine powder for preparation of shaving soaps, etc. *Perfumery & Essen. Oil Record* **32,** 298-9 (1941).

Phase Changes of Soaps

Anhydrous sodium soaps were studied by determinations of heats of transition and transition temperatures up to 340° C. for the series of phases occurring between true crystal and true liquid, for sodium laurate, myristate, palmitate, stearate and oleate. Since the heat effects are similar at the successive transitions of sodium myristate, palmitate and stearate, it is inferred that similar changes in structure are involved. These structural changes may not occur in the same order at the numerically corresponding transitions of sodium laurate, and may also be different for sodium oleate.

At the transitions from curd fiber phase to subwaxy soap and from subwaxy to waxy soap the heat effect is large and varies with the chain length. At the higher temperature transitions the heat effect is small and relatively independent of the chain length. The conclusion is that the low-temperature transitions are probably due to changes in the arrangement of the hydrocarbon chains while the high temperature transitions are due to rearrangement of the polar heads of the molecules. Robert D. Vold. *J. Am. Chem. Soc.* **63,** 2915-24 (1941).

Degreasing Tin

Tin is immersed in an electrolytic bath for cleaning and degreasing, consisting of a mildly alkaline solution with a pH not exceeding 8. This is conveniently prepared from disodium phosphate with the addition of casein. A make-up supply of softened water may be fed to the bath to compensate for the evaporation and loss of electrolyte. Huntley and Palmers, Ltd. British Patent No. 528,242.

Coconut Oil Extraction

The expeller process for coconut-oil extraction is not economical. Oil extraction directly from the fresh meat should be the better method; pilot-plant experiments show that the Lava or roller method for obtaining the oil emulsion is better than the cage hydraulic press method, and that an average of 86 per cent oil recovery can be made with crude rollers. Calculations of the costs of processing by this method, disregarding by-products, show that an efficiency of 76-81 per cent oil recovery would be sufficient to compete with the expeller process. A comparison of income from by-products by the two methods shows that the new process has an advantage over the expeller method. V. G. Lava, P. E. Torres and S. Sanvictores. *Philippine J. Sci.* **74,** 247-81 (1941); through *Chem. Abs.*

an improved

MOISTURE DETERMINATION APPARATUS

By John J. Young
U. S. Chemical Warfare Service

THE standard distillation method for determination of moisture calls for refluxing at least two hours. Thus in the control of moisture, in the "boiling down" method of soap manufacture, it means that considerable time is lost, as the boiling down must be stopped to await the result of the determination. Working with the apparatus illustrated, it was found possible to obtain final and accurate results in about twenty minutes.

In operation enough of the unknown to contain 2-3 cc. of water is weighed into an erlenmeyer flask and about 100 cc. of xylol (previously water saturated and distilled) is added. Distillation is carried on until no more water collects in the burette. By merely drawing the burette down to zero and substituting a clean flask the apparatus is ready for a second determination.

Before using the apparatus for determination it is necessary to run a blank consisting of approximately 2 cc. of water and 100 cc. of xylol. This is to provide for water hold-up in the apparatus and zeroing of the burette.

Inherent errors in use of the new apparatus are small. There is no water hold-up above or in the condenser due to the flushing action of the xylol. Due to the design of the connections between the condenser and the burette, the water tends to form in small droplets which shower down through the xylol in the burette to form a definite layer. Hold-up on the sides of the burette is practically nil. There is some hold-up in the return tube trap which can be minimized by using small diameter tube for the

return. However, any water held in the apparatus remains practically constant from run to run and therefore may be disregarded.

The speed of the apparatus is due to the efficient separation of the drops of water and xylol in the top of the burette and the partial fractionation taking place in the riser tube. This will be aided if the riser tube is asbestos covered.

We are indebted to C. R. Kemp of J. R. Watkins Co. for calling our attention to this new apparatus for moisture determination. Describing it as speedy and practical in use, he reports that it should be of very definite interest to every chemist in charge of production or analysis of soaps and soap compounds.

———•———

Certain bentonites absorb five times their weight or 15 times their volume of water under proper treatment, with a consequent increase in volume and the formation of a slippery, plastic, gelatinous mass that resembles soft soap. The best grades of Wyoming bentonite usually swell to 12-15 times their dry volume. If bentonite is heated above 200° C. for one hour or more, it will disperse more rapidly but swelling and suspension power are decreased.

The simplest procedure for mixing bentonite with water, although time-consuming, is to sprinkle the powder in small portions on the surface of the wtaer. This is repeated, after the previous quantity of the material has been soaked up and has sunk to the bottom of the vessel, until the full quantity of the clay has been added. The water should not be stirred during this procedure until all of the bentonite has been added. A 7-8 per cent concentration is about the limit attained by this method. M. A. Lesser. *Drug & Cosmetic Ind.* **49,** 390-93 (1941).

———•———

An emulsion of fat and water in continuous flow is passed through a tube heated by a warm liquid bath. The tube is kept at 150-250°C. The emulsion is forced upward through the tube at a pressure of 10-100 atmospheres. A catalyst such as zinc oxide is added. "Montecatini" Societa generale per l'industria mineraria e chimica. British Patent No. 525,381.

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Rotproofing Treatment

UNDER war conditions the rotproofing of fabrics, sandbags in particular, has become of very great importance. Studies conducted in Great Britain would seem to indicate that laundry and drycleaning plants already possess equipment suitable for the application of rotproofing materials. Millions of bags have been treated by the processes described here, which gives them a useful life up to two years.

In selecting a rotproofing material, the following properties are desirable: 1. The rotproofer must possess both fungicidal and bactericidal properties. 2. It should be neither acid nor alkaline. 3. It must be only slightly soluble in water to avoid leaching out by rain. 4. It should not increase inflammability. 5. It should not be poisonous nor cause dermatitis. 6. It should not detract from fiber strength. 7. It must be cheap, readily available, and easily applied. 8. It should dry quickly. 9. It should not cause excessive shrinkage.

The three classes of materials most nearly satisfying these requirements as shown by practical tests are (1) specified tar distillates (creosote), (2) organic copper salts, and (3) cuprammonium. The tar distillates are usually creosotes with a tar acid content between 5 and 10 per cent. Copper salts of oleic, stearic, and naphthenic acids have been considered, but in Great Britain the two former were in short supply, only naphthenic acid being available. Copper chromate has proved effective and colloidal copper in aqueous suspension has given good results, but this introduces a drying operation, so is not suitable for very large numbers of bags. The same consideration applies to copper carbonate applied by precipitation on the fiber after immersion in solutions of soda ash and copper sulfate.

The cuprammonium process has much to recommend it but is not quite so effective as the other two as regards length of life. It has the disadvantage that it reduces fiber strength by 10-15 per cent.

Suitable concentrations of agents for the treatment of clean bags are:

	Per cent of copper
Organic copper soaps	0.8-1.0
Cuprammonium	1.0-1.5
Creosote	25
Copper creosote with 20% of creosote	0.5

A proofing process employing two baths is one in which the first contains boiling cutch, of which approximately 1 per cent is left on the fiber. The second contains cuprammonium solution from which 0.8-1 of copper on the weight of the fiber should be deposited. This process is cheap and the cutch gives added protection against sunlight, but the boiling and need for two baths restricts the rate of production.

For copper soaps the solvent may be a white spirit of suitable high flash point, care being taken to see that this is entirely removed from the bags before they are stored.

The most economical method is to process jute fabric before it is made into bags. With bags the technique is to immerse them in the liquor, keeping them in movement to insure thorough impregnation. After draining, the bags are passed into a hydro-extractor where excess liquid is removed. Except with creosote and creosote-copper, the bags are removed from the extractor into a tumbler drier where excess water or solvent is removed. The bags must not be dried beyond their normal moisture content. Excess creosote must be removed in the centrifuge to prevent a sticky, greasy bag. *Laundry & Dry Cleaning J. of Canada* **21,** No. 10, 12-13 (1941).

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Plastics for Bottle Caps

Not all plastics are suitable for use in contact with liquid soap. A producer of liquid shampoo discovered this to his sorrow after he had selected a polystyrene resin for use as bottle caps with his shampoo. This resin, possessing the transparency of cellulose acetate, although highly resistant to alcohol, crazes in contact with even weakly alkaline solutions. It is better suited for use with acid solutions. Cellulose acetate is also affected by exposure to weak alkalies,—cellulose nitrate to a much lesser degree. These two products are suitable for packaging solid soaps.

Both urea- and phenolic molding powders are suitable for molding closures for all types of soap products, and are completely unaffected by liquid soap or such solvents as might be present. Transparent forms of both resins are available; transparent cast phenolic resin is finding many new uses in the packaging field. *Am. Perfumer* **43,** No. 4, 54 (1941).

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Hilditch Text Revised

A new chapter on "soapless detergents" is one of the principal additions made in the second edition of "The Industrial Chemistry of the Fats and Waxes," by T. P. Hilditch, 532 pages, just brought out by D. Van Nostrand Co., New York. The first edition of the work, published in 1927, was one of a series of textbooks on industrial chemistry, while this latest edition has been published as a separate monograph. The general plan of the volume, however, has been left unaltered, and principal changes have been additions to some of the chapters, which developments in fat technology since 1927 have made necessary. The present volume is 70 pages longer than the previous one, while the section devoted to soaps is 17 pages longer than that in the first edition. The physical chemistry of soaps has been brought up to date, and new processes of soap production, such as the manufacture of washing powders involving spray injection of molten fatty acids, are discussed. The chapter on sulfonated oils, alkyl sulfates or sulfonates and other "soapless detergents" constitutes an inclusive review and classification of the semi-synthetic fatty acid compounds used as detergents.

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PRODUCTS AND PROCESSES

Copper Cleaner

A stain-removing agent for copper or its alloys consists of a sulfonated oil such as Turkey red oil, to which are added suitable amounts of salicylic acid, tartaric acid, zinc chloride and boric acid, also water if desired. Z. Hotta. Japanese Patent No. 134,301.

Lauryl Alcohol Detergents

Compounds useful as detergents are produced by halogenating lauryl alcohol or its mixtures to introduce halogen into the alcohol chain at random positions, and then sulfonating. The products may be used in the form of their alkali metal salts if desired. Benjamin R. Harris and Frank J. Cahn, to The Emulsol Corp. U. S. Patent No. 2,251,932.

Germicidal Soap

Use is made of an alkali metal soap of at least one saturated acid together with 1-10 per cent of an alkyl phenol such as a hexyl cresol having germicidal properties. The soap should be free from soaps of unsaturated acids and substantially free from unsaponifiable and unsaponified material other than phenol. Walter H. Hartung, to Sharp & Dohme, Inc. U. S. Patent No. 2,251,934.

Cleaning Solution

To a mixture of Turkey red oil, naphtha and caustic alkali, made transparent by thorough mixing or heating, is added sodium ammonium phosphate, urea, terpenes or kerosene. Z. Hotta. Japanese Patent No. 134,300.

Washing Textiles

Water-soluble salts of mixed polymers containing carboxyl groups are used for washing textiles. These compounds are obtained by polymerizing unsaturated dicarboxylic acids such as maleic or fumaric with olefinic compounds, followed by saponification. Karl Pausor and Georg Schultz, to I. G. Farbenind. A.-G. German Patent No. 697,945.

Wetting Agents

Water-soluble esters suitable as wetting agents are produced by mixing a polymeric metaphosphoric acid with an aliphatic compound containing at least one hydroxyl group, such as castor oil, oleyl alcohol, butyl alcohol etc., and neutralizing the reaction products with ammonia, pyridine, caustic soda, or triethanolamine. Anneliese Beyer. U. S. Patent No. 2,252,479.

Silicates in Bleaching

An interesting industrial development in the use of sodium metasilicate is in the bleaching process in the manufacture of sulfite pulp. The addition of sodium metasilicate to calcium hypochlorite bleach in treating sulfite pulp results in improvement in the bleaching action and a reduced quantity of chlorine required. *Canadian Chem. and Process Industries* **25**, 551 (1941).

Steam Deodorization

Tests with sunflower-seed oil show that steam deodorization at 150° C. is ineffective, but two hours at 160° will give as much effect as a steam schedule taking six hours to reach 160°. Steam for the process should be superheated at least to 325° C. *I. Petryaev. Masloboino-Zhirovaya Prom.* **16**, No. 5/6, 69-70.

Glycerine Processing

Glycerine is distilled from a crude solution such as foots from the distillation of saponification crudes, by supplying the solution at the point of minimum clearance between the heated surfaces of two revolving metallic cylinders having a relatively small clearance between them. The solution forms films simultaneously on each of the heated surfaces. The glycerine is distilled from these surfaces at a pressure less than atmospheric. Ralph F. Peterson, to Canadian Industries, Ltd. Canadian Patent No. 400,101.

Alkylolamine Detergent

An alkylolamine such as triethanolamine is initially polymerized, as by heating for three hours at about 250° C. with a small proportion of caustic soda. The polymerized product is then treated with a material such as a partially hydrogenated cottonseed oil or coconut oil. Morris B. Katzman and Albert K. Epstein, to the Emulsol Corp. U. S. Patent No. 2,248,039.

Hose for Caustic Transfer

Soap manufacturers using caustic soda solution supplied in tank wagons have experienced trouble with the rubber hose used for pumping out the contents of the tank, the rubber being attacked, undergoing swelling and gradual deterioration. Rubber-like plastics consisting of polymers of vinyl halides have been found more serviceable in contact with alkali than either natural or synthetic rubber. Such products as "Koroseal" appear to be very suitable for this application, being also resistant to abrasion under conditions of use such that no heat is generated. The vinyl polymer resin is also extremely resistant to the deteriorating effect of light and oxidation. *Am. Perfumer* **43**, No. 4, 54 (1941).

Synthetic Wax

Synthetic wax materials contain hydrogenated castor-oil wax together with 5-50 per cent of at least one substance of the group consisting of unsaturated higher aliphatic or alicyclic alcohols melting below 70° C., and lower cellulose ethers. Abietyl alcohol is particularly good with the ethyl ether of cellulose, to confer toughness, elasticity and flexibility. E. I. du Pont de Nemours & Co. British Patent No. 529,797.

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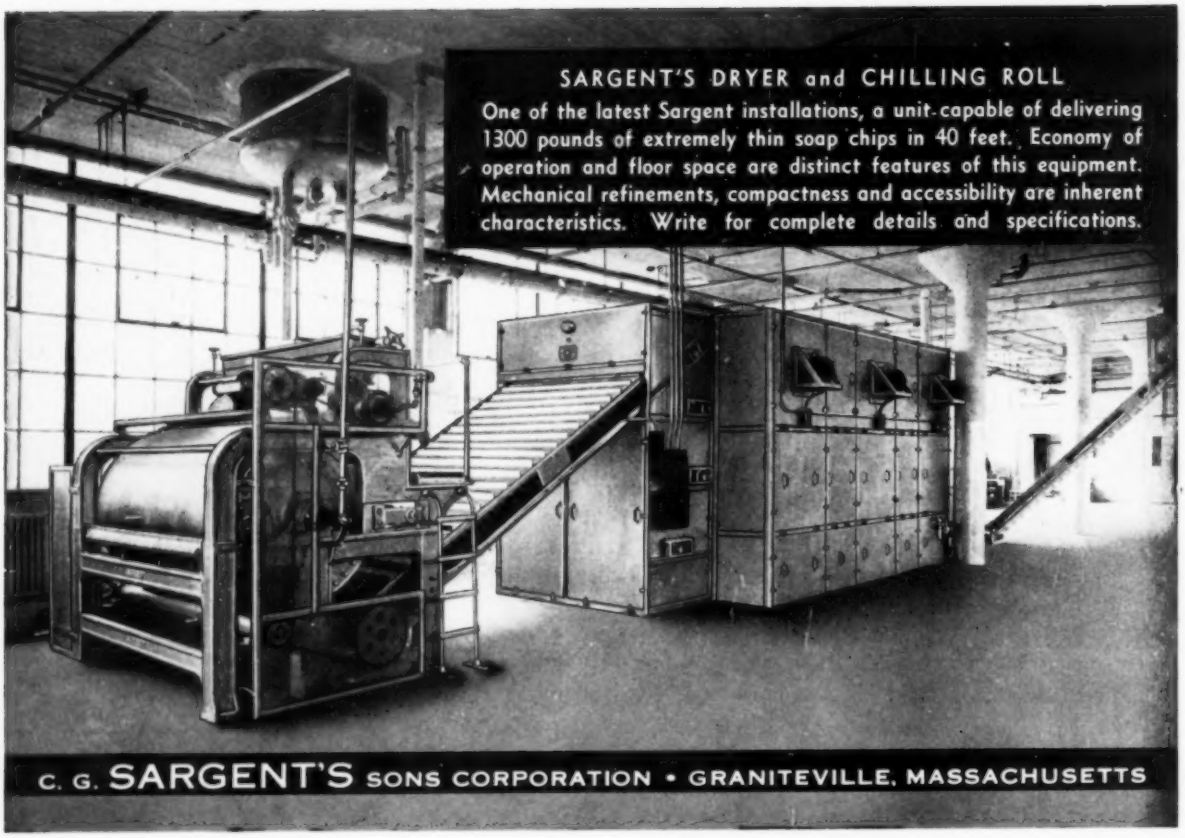
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One of the latest Sargent installations, a unit capable of delivering 1300 pounds of extremely thin soap chips in 40 feet. Economy of operation and floor space are distinct features of this equipment. Mechanical refinements, compactness and accessibility are inherent characteristics. Write for complete details and specifications.
C. G. SARGENT'S SONS CORPORATION • GRANITEVILLE, MASSACHUSETTS

NEW PATENTS

Conducted by

Lancaster, Allwine & Rommel

Registered Attorneys

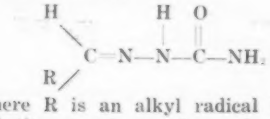
PATENT AND TRADE-MARK CAUSES

402 Bowen Building, Washington, D. C.

Complete copies of any patents or trade-mark registration reported below may be obtained by sending 25c for each copy desired to Lancaster, Allwine and Rommel. Any inquiries relating to Patent or Trade-Mark Law will also be freely answered by these attorneys.

No. 2,261,700, Cleaning Composition, patented November 4, 1941 by John W. Ryznar, La Grange, Ill., assignor to National Aluminate Corp., Chicago. A composition of matter adapted to wash out radiators whereby scale and oil films are removed from the metallic surfaces thereof, comprising oxalic acid, water, kerosene, sodium lauryl sulfate, and sodium acid sulfate.

No. 2,261,735, Insecticide, patented November 4, 1941 by Samuel I. Gertler and Herbert L. J. Haller, Washington, D. C., assignors to Henry A. Wallace, as Secretary of Agriculture of the United States of America, and his successors in office. An insecticide comprising a compound of the general formula



where R is an alkyl radical having substituents chosen from the group consisting of nitro, halogen, amino, and hydroxy.

No. 2,262,454, Insecticide, patented November 11, 1941 by Albert Lawrence Flenner, Wilmington, Del., assignor to E. I. du Pont de Nemours & Co., Wilmington. A pest control composition for use in horticultural spray suspensions consisting essentially of a solution of rosin residue in a water-miscible solvent containing a material which will act as a wetting agent for the spray suspension.

No. 2,262,523, Insecticide, patented November 11, 1941 by Raymond F. Bacon, Bronxville, N. Y., and Isaac Bencowitz, Newgulf, Tex., assignors to Texas Gulf Sulphur Co., Houston, Tex. An insecticide and fungicide comprising a finely divided product obtained by fusing a mixture containing elemental sulfur and an amount of rosin equal to not less than about 10 per cent of the total weight of the sulfur and rosin, heating the fused mixture to a temperature and for a period of time such as to effect a chemical reaction between the sulfur and the rosin, cooling the resulting product, and finely dividing the cooled product.

No. 2,263,716, Parasiticide, patented November 25, 1941 by Joseph N. Borglin, Wilmington, Del., assignor to Hercules Powder Co., Wilmington. A parasiticide comprising a compound of the formula R-CNX in which R is a terpene ether, X is an element selected from the group consisting of sulfur, selenium, and tellurium and the CNX radical is directly attached to a carbon atom of the terpene portion of the terpene ether.

No. 2,263,729, Detergent, patented November 25, 1941 by Winfrid Hentrich, Dusseldorf-Reisholz, and Eberhard Elbel, Dusseldorf, Germany, assignors, by mesne assignments, to Procter & Gamble Co., Cincinnati. Washing and cleaning compositions which comprise sodium soaps of hardened fatty compounds which are poorly soluble in warm and cold water, in admixture with water soluble salts of compounds composed of an alkylphenoxy-carboxylic acid, the alkyl radical having at least 4 carbon atoms and the carboxylic acid radical being an aliphatic radical of not more than 5 carbon atoms, the compositions being readily soluble in warm water and having good detergent and foaming properties.

No. 2,263,827, Insect Larval Lure, patented November 25, 1941 by Edouard H. Siegler, Takoma Park, Md., assignor to Henry A. Wallace, as Secretary of Agriculture of the United States of America and his successors in office. An insect larval lure adapted as an adjunct to an insecticide, containing as its essential active ingredient sorbitol admixed with an insecticide.

No. 2,263,948, Germicidal Detergent, patented November 25, 1941 by Halvor O. Halvorson, Minneapolis, Erling J. Ordal, Seattle, and John L. Wilson, St. Paul, assignors to Economics Laboratory, Inc., St. Paul. A germicidal detergent composition comprising buffer salts, a chlorine disinfecting compound, and a wetting agent as herein defined, the composition being soluble in water, and a solution made therefrom, containing from ½ to 3 per cent of the composition, containing only a small fraction of 1 per cent of the wetting agent and the chlorine disinfecting compound, being an actively germicidal detergent solution.

Menhaden Oil

Oils of domestic origin are becoming more important. Marine oils in particular are available in large quantities and should be given serious consideration as replacements for foreign materials. Menhaden oil was investigated because it is the most abundant marine oil produced on the Atlantic coast. The composition found in terms of fatty acids was as follows:

Fatty Acids Expressed by No. of Carbon Atoms	*Per Cent in Menhaden Oil*
14 (saturated acids)	8.3
16 (saturated acids)	14.9
18 (saturated acids)	4.7
14 (unsaturated acids)	5.8
16 (unsaturated acids)	23.4
18 (unsaturated acids)	31.1
20 (unsaturated acids)	8.4
22 (unsaturated acids)	3.4

W. H. Baldwin and W. B. Lanham. *Ind. Eng. Chem.*, Anal. Ed. **13**, 615-16 (1941).

Fatty Acid Distillation

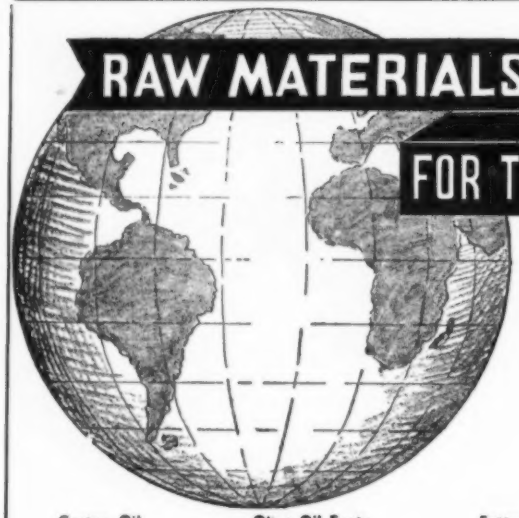
Fatty acids are distilled with the aid of indirect heat and a high vacuum. Unvolatilized material is separated from the hot vapors without substantially reducing the temperature. The fatty acid feed is preheated to the temperature of the still by indirect counter-current contact with the hot vapors freed from unvolatilized material, the vapors being brought into such contact with the feed before undergoing any substantial reduction in temperature. Martin H. Ittner, to Colgate-Palmolive-Peet Co. Canadian Patent No. 400,118.

RAW MATERIALS 1838-1942

FOR THE SOAP INDUSTRY

Oils Fats
Chemicals
Fatty Acids
White Mineral Oils
Petrolatums

FROM ALL PARTS OF THE WORLD



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Try this Welch, Holme & Clark Service

Bubbling agent for bath, powder or liquid

Castor Oil	Olive Oil Foots	Fatty Acids	Grease	Modified Soda
Cocoanut Oil	Peanut Oil	Lard Oils	Lanolin	Silicate Soda
Corn Oil	Perilla Oil	Neatsfoot Oil	Caustic Soda	Metasilicate
Cottonseed Oil	Rapeseed Oil	Oleo Stearine	Soda Ash	Tri Sodium Phosphate
Palm Oil	Sesame Oil	Stearic Acid	Caustic Potash	Di Sodium Phosphate
Palm Kernel Oil	Soya Bean Oil	White Olein	Carbonate Potash	Chlorphyll
Olive Oil	Teaseed Oil	Tallow	Sal Soda	Superfatting Agent

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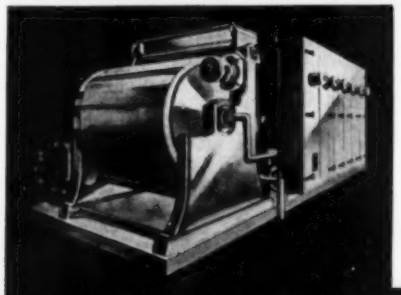
INCREASED SPEED



In producing flakes for granulated soaps, toilet cakes or packaging, high speed output can often be an item of great saving. With the New Proctor Flake Soap System, from the hot liquid soap in the kettle or crutcher to the dried flakes requires only 6 to 14 minutes and capacities may be obtained from 750 to 6000 lbs. per hour, according to flake thickness, character of soap, etc. At this stepped-up production, quicker deliveries are assured and there are tremendous savings in floor space and equipment. Complete details are contained in a new 16-page illustrated catalog, that is yours for the asking.

PROCTOR & SCHWARTZ · INC · PHILADELPHIA

NEW PROCTOR *Flake Soap* SYSTEM

NEW EQUIPMENT

IF YOU want additional information on any of the items described below or if you want any of the bulletins, catalogs, etc., write to the MacNair-Dorland Co., Inc., 254 West 31st St., New York, mentioning the number of the item.

858—Stain Removal Chart

A compact stain removal chart for commercial and institutional laundries is part of a data sheet "Answers to Your Questions" just issued by Philadelphia Quartz Co., Philadelphia. A summary is given of the chemicals, bleaches and solvents needed in stain problems, and recommendations are made for treatments required for the removal of a large variety of stains encountered in laundry work.

859—Nitroparaffin Data

Commercial Solvents Corp., Terre Haute, Ind., has just brought out a 40-page booklet describing the nitroparaffins and a number of their derivatives. A section of the booklet is devoted to the applications of the 22 compounds now available. Uses in the manufacture of emulsion paste waxes, automobile cleaners and polishes, shoe cleaners, brushless shaving creams, larvicides, fumigants, industrial emulsions and pharmaceuticals are covered and typical formulas are given. More than 80 typical reactions of the NP's are described in the sections on syntheses.

857—New Liquid Soap Dispens

Moore Brothers Co., New York, are introducing a new liquid soap dispenser, the "Peer No. 50." Plastic replaces metal in the body and bracket, expediting deliveries and releasing metal for other purposes. The makers announce that exacting tests preceded the adoption of plastic as a replacement for metal. These tests indicated the value of plastic and resulted in a dispenser considerably improved in color and appearance. The design has been stream-

lined in keeping with the tempo of the times. Features of the original "Peer No. 100" are retained in the new dispenser, including a heavy flint glass globe, and an effective spring control plunger designed to prevent leaking or clogging. The original "Peer" will continue to be catalogued.

860—Rules for Shipping

"How to Stack and Load Corrugated Shipping Boxes," a new booklet, has just been published by Hinde & Dauch Paper Co., Sandusky, Ohio. Rules to help the manufacturer conserve time, space and money, while decreasing the damage to packaged merchandise in transit and storage, form the theme of the new booklet.

Floor Maintenance Education

An article on "Floor Maintenance Education" by William T. Brown, head of the building operation and maintenance department, Frank Wiggins Trade School, Los Angeles, appears in the December issue of *Floor Craft*, publication of Continental College of Floor Efficiency, Brazil, Ind.

Porter Div. Names Hille

J. H. Hille has just been named Chicago district representative for the process equipment division of H. K. Porter Co., Pittsburgh. Mr. Hille will cover the Chicago area, including parts of Illinois, Indiana, Iowa and Wisconsin. Active in the chemical field for eighteen years, he opened his own sales office in Chicago in January, 1941.

Innis, Speiden Names Frost

Pinckney L. Frost has just been appointed sales manager of Innis, Speiden & Co., gums and waxes, New York, filling a vacancy caused by the death of H. Gordon MacKelcan. Mr. Frost has been connected with Innis, Speiden for twenty years. He was manager of the Cleveland branch of the company from 1928 to 1933. In 1933 he was appointed assistant manager of sales, transferring his activities to the New York headquarters.

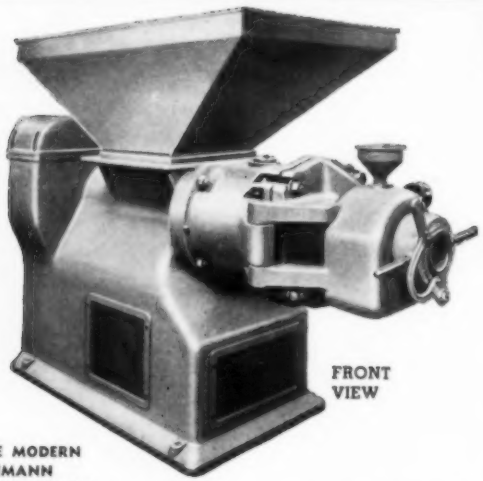
C. S. A. Holds Party

The Salesmen's Association of the American Chemical Industry held its 20th annual Christmas party on the Starlight Roof of the Waldorf-Astoria Hotel, New York, Dec. 18. Approximately 500 members and guests were on hand for the cocktail party, dinner and floor show.

Synthetic Para-Cymene

The production of synthetic para-cymene (para-methyl isopropyl benzene) from liquid terpenes has just been announced by Hercules Powder Co., Wilmington, Del. A new unit for production of the material is now being completed at the naval stores plant of the company at Brunswick, Ga. Para-cymene is used as an intermediate in the manufacture of carvacrol, thymol, phenols and synthetic menthol. Its chlorinated derivative has been used as a wood-preservative and insecticide.

HERE IS A PLODDER TO MEET *YOUR* REQUIREMENTS



FRONT VIEW

THE MODERN LEHMANN SOAP PLODDER

Send for descriptive folder and specifications.

It incorporates all the Features which YOU desire to promote efficiency such as . . .

- Heavy construction to insure **maximum soap density.**
- Perfectly regulated feed from hopper to compression worm indicating **effective design.**
- Compression worm operates in water jacket producing **efficient water cooling.**
- Die head equipped with electrically heated water bath for **die head heating.**
- Built-in gear head motor and short chain drive assembled within the frame, making for **economy in floor space.**
- Modern drive construction which eliminates many parts, gives **higher power efficiency.**
- Durable light-weight aluminum alloy compression worm assures **freedom from contamination.**
- In special design the hopper, cylinder, die head and other parts in contact with soap, are lined with or made of stainless steel to **protect the soap absolutely from contamination.**
- Made with worms of 6, 8, 10, 12 and 14 inches.

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ESTABLISHED IN 1798

Woburn Iodine Number

The iodine reagents now in use react incompletely with substances containing conjugated double bonds. Methods recommended for determination of the total unsaturation of conjugated oils and fatty acids are complicated and have not found general use in industrial analysis.

Hanus solution, when used in large excess, measures the total unsaturation of dehydrated castor oil, but this procedure is unsuitable for other conjugated oils and fatty acids. By employing the Woburn iodine reagent, 0.32 Normal iodine bromide solution in glacial acetic acid, a simple procedure is evolved for both conjugated and nonconjugated substances.

Fatty acids with conjugated double bonds, made by an isomerization process from natural fatty acids, give low iodine values with the standard methods. With the proposed method, their iodine values are identical with those of the nonconjugated fatty acids from which they were made. With dehydrated castor oil, constant values result over a wide range of excess of reagent. Values found were as follows:

Oil	*Wijs Iodine Value*	*Woburn Iodine Value*
Soybean oil	130.5	126.5
Linseed oil	186.8	185.5
Sardine oil, winterized	196.9	189.2
Teaseed oil	87.7	88.8
Tall oil, distilled	169.5	203.8
Walnut oil	155.2	156.0
Castor oil	87.4	88.9

◆

Removing Fluoride from Water

Fluorides, the cause of the disfiguring "mottled enamel" of teeth, can be removed from the drinking water by two simple methods designed for use in homes or small institutions having their own water supplies. The methods were patented by Dr. Elias Elvove, chemist of the U. S. Public Health Service, who assigned his patent rights to the U. S. Government. Community water supplies can be freed of fluorides by a relatively cheap method now commercially available. The latest method is to shake up two gallons of water with a half pound of tricalcium phosphate, finely powdered, for half an hour. The mixture is then allowed to settle and is filtered through a suitable filter. Magnesium oxide is used also. This has the advantage of sterilizing the water and of being cheaper. The chief disadvantage is that it makes the water more alkaline, although this can be counteracted by adding a suitable amount of acid, for which vinegar might be used. *Science Supplement* **94,** October 10, 1941.

◆

Sunflower Seed Oil

The oil content of the whole seeds of the Mennonite variety of sunflower grown in eight widely separated localities in Canada ranged from 23.8 to 26.8 per cent. The Wijs iodine value ranged from 114.4 to 136.2 and the acid value from 0.9 to 9.0. J. A. Anderson, Dept. Trade & Commerce, Canada, Grain Research Lab., Winnipeg. Ann. Report **13,** 44-5; through *Chem. Abs.*

Nalchikin Clay

The decolorizing power of nalchikin, an adsorbent clay from Nalchik, Russia, is increased by drying. Nalchikin, of which millions of tons are available, has exceptionally high specific surface area because of its porous texture. Its oil absorption is no greater than that of the usual decolorizing earths. It gives a good result, not inhibited by contact with air, when shaken with the oil for 10-15 minutes. M. Kuadzhe. *Maslo-boino-Zhirovaya Prom.* **16,** No. 5/6, 21-4; through *Chem. Abs.*

◆

Brazilian Palm Oil

Brazilian palm oil obtained from the fruit of *Eloeis melanococca* has a density of 0.9084 at 25° C., a refractive index of 1.4632, iodine index of 51, saponification index of 213, and free acidity expressed in per cent oleic acid of 20.7 per cent. H. T. Cardoso and G. G. Villela. *Mem. inst. Oswalde Cruz* **35,** 771-7; through *Chem. Abs.*

Soap With High Gloss

A method for imparting gloss to cakes of milled toilet soap or of other toilet soap having similar properties, is adapted to modern large-scale production. A higher degree of gloss is obtained by this new and continuous, automatic process than is obtainable by the normal method. The cakes of soap are passed by suitable conveyors through a steaming zone in which each cake is subjected to a brief treatment with steam, and then through a drying zone in which each cake is subjected to the drying action of a current of cold or hot air. After the drying treatment, the soap can be wrapped or packed in the normal way without injury to the glossy surface.

The treatment is preferably carried out on the stamped cakes, as subsequent stamping might impair the gloss. Wet or dry steam, or steam mixed with air, may be used, but care should be taken that the steam coming into contact with the surface of the soap cake is free from visible droplets, as these are apt to spoil the evenness of the gloss. The temperatures in the steaming zone is preferably 90-100° C. If the steam impinges directly on the cake, about one second is sufficient, otherwise a period up to 10 seconds may be required. The gloss appears to be imparted to the surface by the steam causing a partial solution and partial melting of the surface layer of the soap, so that minor surface irregularities are evened out.

If the drying is effected by means of heated air, for example air at 100-150° C., the soap cakes must be allowed to cool or be artificially cooled before they can be safely handled. This can advantageously be done by exposing them to a current of cold air. Preferably the cakes are passed successively through the steaming and drying zones with the shortest practicable interval of time between the two zones. Apparatus for accomplishing these steps is described. Lever Brothers and Unilever Ltd., and Thomas Penny. British Patent No. 538,675; through *Perfumery & Essen. Oil Record* **32,** 256-8 (1941).

War in the Pacific

(*From Page* 31)

opinion of crude producers, however, it did not go far enough. Possibly other amendments to the schedule to come in the near future will improve the situation. It may be remembered that during World War No. I, crude glycerine producers were offered a premium by the government for most efficient practices in recovering glycerine. What a contrast with the glycerine price ceiling of today!

Just as crude glycerine producers are in general opposed to the present price ceiling set-up on glycerine, so do most of them look with more favor than disapproval on the price ceiling order on fats and oils, Schedule No. 53 of the OPA. From the soap maker's viewpoint, a price ceiling on fats and oils is a good thing, although while the situation is in its present state of flux, dealers in crude oils are not offering and soap makers are unable to buy any crude fats or oils. Business in fats and oils has been virtually at a standstill ever since the price ceiling became effective on December 13th.

On the other side of the fence a great many sellers of fats and oils and their representatives in Congress, the farm bloc, have become excited over the price schedule, which was issued only as a temporary schedule, and have attacked Mr. Henderson for issuing it so "arbitrarily." Mr. Henderson justified his act by stating he imposed the schedule to prevent runaway prices which he said were imminent at the time.

Revisions will come, and probably soon, to alleviate "hardship cases" resulting from the order in its present form. But until a permanent schedule has been evolved, fats and oils will probably not be generally available. Under the present order problems occasioned by individual circumstances cannot be handled, as too many questions remain unanswered.

Not all dealers in fats and oils are up in arms over the price ceiling order, however. The views expressed to a representative of *Soap* by one member of the trade must be shared by many others in the same position. "This is no time for personal selfishness," he said, "our most important concern is the business of winning this war, retaining our possessions in the East and keeping open the trade routes to the East."

—— • ——

Water in the Laundry

(*From Page* 26)

The alkalinity of water in the boiler should not exceed the equivalent of 200 grains of sodium carbonate per gallon. If it is allowed to exceed this figure, not only is there danger of corrosive attack on the interior of the boiler and on the fittings, but foaming and priming are likely to occur. What has been found most satisfactory for the storage and handling of hot zeolite-softened water is to have a steel tank lined with rubber or vulcanite, with copper delivery pipes to the washing machines. F. Courtney Harwood. *Chem. & Industry* **60,** 760-63 (1941).

—— • ——

Thiocyanogen Values

Thiocyanogen values were determined on the methyl esters of oleic, linoleic and linolenic acids and on six different mixtures of these esters, using 0.1 and 0.2 Normal thiocyanogen solutions. The values determined with 0.1 Normal solutions showed less variation than those determined with 0.2 Normal. The composition of the mixtures calculated from equations based on the thiocyanogen values of the esters found, agreed with the known composition within reasonable limits. It is suggested that tentatively the following values be adopted: 89.4 for oleic acid, 93.9 for linoleic, and 162.0 for linolenic when 0.1 Normal thiocyanogen solutions are used, and 89.4, 96.8 and 167.5 with 0.2 Normal solutions. R. W. Riemenschneider, C. E. Swift and Chas. E. Sando. *Oil & Soap* **18,** 203-6 (1941).

—— • ——

U. S. P. Soft Soap Comment

(*From Page* 23)

cause of its demand for edible purposes. However, conditions have changed so much in the last few days that soapers may be glad to make soap out of anything. I fear we dare not be too caustic in this matter."

* * *

"A suggestion which the U.S.P. revision board might do well to consider in drawing up future monographs on soaps would be to include in the personnel of the revision committee a representative group of practical soap makers. The benefit of their practical experience would without doubt prove very helpful."

—— • ——

Glycerine

(*From Page* 30)

ing costs were cut in half by improvement in agitation alone. Bleaching carbon should contain less than 0.1 per cent combined sulfates and chlorides, since these are easily extracted by the hot glycerine; also they should filter easily and should not impart a foreign odor to the product. Usually the bleaching equipment is arranged so that the glycerine may be by-passed or circulated through the filter press as desired. Control tests and the adjustment of the specific gravity is usually done at this point.

CP or chemically pure glycerine, meets the U. S. Pharmacopoeia standards, which specify a specific gravity of 1.2620 at 60° F. (15.6° C.) and a product containing approximately 95 per cent glycerol. This is not to be confused with B.P. (British Pharmacopoeia) glycerine, which must have a specific gravity of 1.2590 at 25.0° C., corresponding to about 98 per cent glycerol. The reader is referred directly to the specifications for further details and to Webb (7), or other standard work for methods of analysis.

Frequently glycerine having special characteristics is requested such, for example, as glycerine denatured with coloring matter, glycerine alcohol mixes for shock absorbers, glycerine at a special pH (normal value is 4.5-5.0) or special odorless glycerine. Usually little difficulty is encountered in meeting such specifications.

SANITARY PRODUCTS SECTION

Insecticides • Disinfectants • Moth Products
Floor Products • Polishes • Chemical Specialties

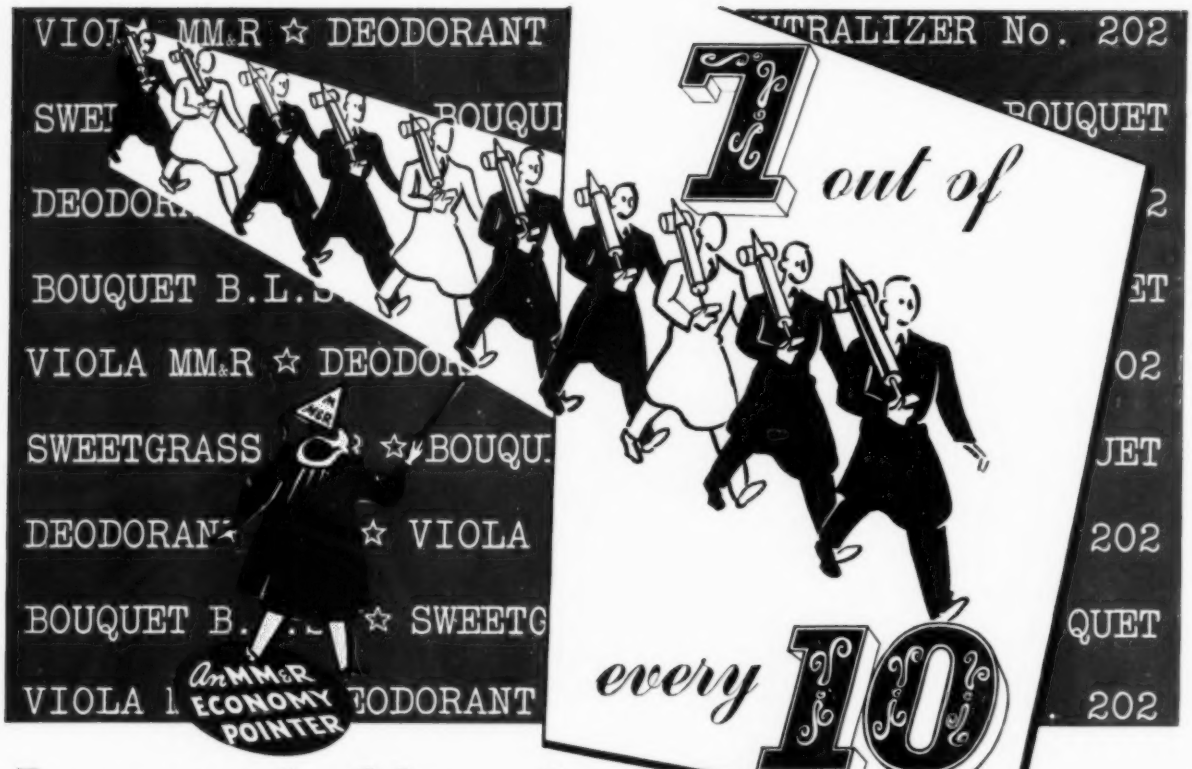
DON'T KILL YOUR KILLING POWER

USE PYRISCENTS

It is now a well recognized fact that some perfumes reduce or completely destroy the killing power of sprays. The two basic undesirable features of ordinary perfumes are: Lack of complete solubility in oils, and unfavorable chemical reaction with Pyrethrum, which frequently manifests itself by a cloudy or dirty looking spray upon aging.

With these faults in mind, our entomologists collaborated with the Aromatics Division of DuPont to develop PYRISCENTS . . . the first insecticide perfume oils specifically compounded and thoroughly tested for chemical compatibility with the active principles of Pyrethrum and Pyrin. PYRISCENTS (available in most any odor desired) are non-poisonous; *completely* oil soluble; will not react chemically to reduce killing power; and maintain their full odor value long after other perfumes have gone "sour."

JOHN POWELL & CO., INC. 114 East 32nd Street, New York.



Insecticide Manufacturers

who have told us how ~~much~~ LITTLE they could spend

for perfuming and deodorizing have found

to their profit that MM&R could do the

job BETTER and do it under the allowed production budget

SUGGESTION—Send us a sample of your unperfumed, undeodorized spray, tell us how little you have to spend, and our laboratories will return your samples deodorized and perfumed.

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A Natural

PRENTISS CLARIFIED PYRETHRUM EXTRACT #20

"it's a natural"

In feminine pulchritude as well as insecticide bases, natural products are still preferred by those in the "know."

We can now offer Prentiss Clarified Pyrethrum Extract No. 20, in 55 gallon drums, at a price competitive with Synthetics. If price has kept you from using Pyrethrum Extract during the past few years, by all means investigate Prentiss Clarified Pyrethrum Extract No. 20.

R. J. PRENTISS & CO., INC. — THE WORLD IN BOTANICALS

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COMPARE

PYROCIDE 20

THESE SOLUTIONS MAY LOOK ALIKE THIS WAY-

THIS IS A 5% SOLUTION OF PYROCIDE 20, DEODORIZED—CLARIFIED, IN DEODORIZED BASE OIL
THIS IS A 5% SOLU
TION OF ANOTHE
ODORLESS CONCE
TRATE IN DEO-
DORIZED BASE O

MAKE THIS EASY TEST YOURSELF—*Here's All You Do*

(1)

Measure out equal volumes, 12½ cc., of Pyrocide 20, Deodorized—Clarified, and any other pyrethrum concentrate or combination pyrethrum substitute in clean graduates.

(2)

Put 250 cc. of deodorized base oil in two separate graduates. Add the concentrates to the base oil. Mix the two dilute solutions carefully and allow the air bubbles to settle out.

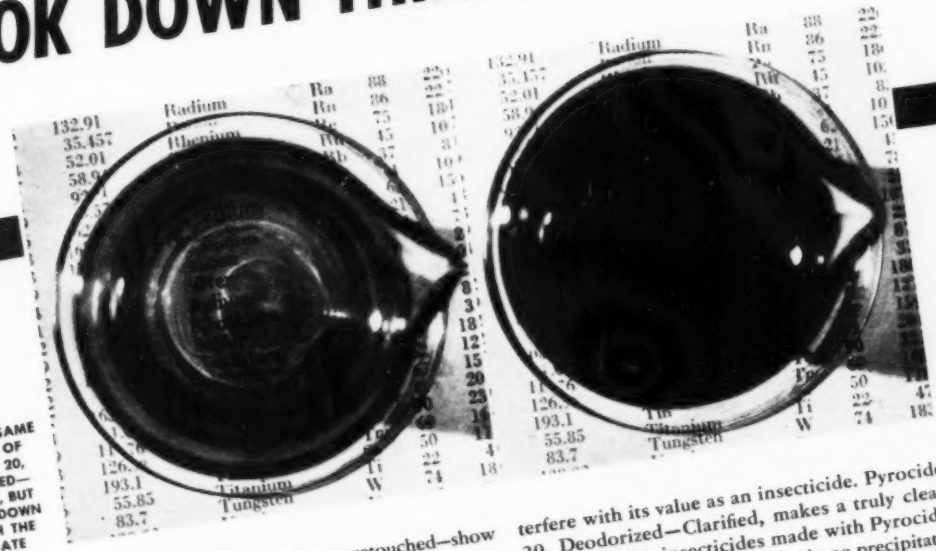
(3)

Place the two cylinders above any convenient ordinary size type matter. Then look DOWN THROUGH the two solutions and see if you can read the type!

No other manufacturer has yet been able to duplicate the clarification process that gives you Pyrocide 20, Deodorized—Clarified, made by a patented process invented by McLaughlin Gormley King Co. This company, which gave the world the first standardized pyrethrum concentrate back in 1929, is today the leader in the field. In addition to the highly clarified product, McLaughlin Gormley King Co. offers Pyrocide 20, Regular, the original chilled, filtered, standardized pyrethrum concentrate which is ideal for many insecticide uses. Pyrocide 20, Regular, sells at a lower price. Today both are guaranteed to contain 2.0 grams of Pyrethrins per 100 cc. (Seil method). Write today for full information and prices to McLaughlin Gormley King Co., Minneapolis, Minn.

FOR CLARITY!

BUT—SEE WHAT A DIFFERENCE WHEN YOU LOOK DOWN THROUGH THE SOLUTIONS!



THIS IS THE SAME SOLUTION OF PYROCIDE 20, DEODORIZED—CLARIFIED, BUT LOOKING DOWN THROUGH THE GRADUATE

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These amazing photographs—unretouched—show the result of this easy test for clarity! Few concentrates come even close to Pyrocide 20, the original Deodorized–Clarified Concentrate. This difference in clarity becomes more marked as the solution ages, so that an insecticide on the dealer's shelf may eventually contain enough precipitate to interfere with its value as an insecticide. Pyrocide 20, Deodorized—Clarified, makes a truly clear solution. Your insecticides made with Pyrocide 20, Deodorized—Clarified, contain no precipitate, won't clog small apertures of spraying devices —will not stain curtains or furniture.

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INSIDE NEWS

JANUARY PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1942

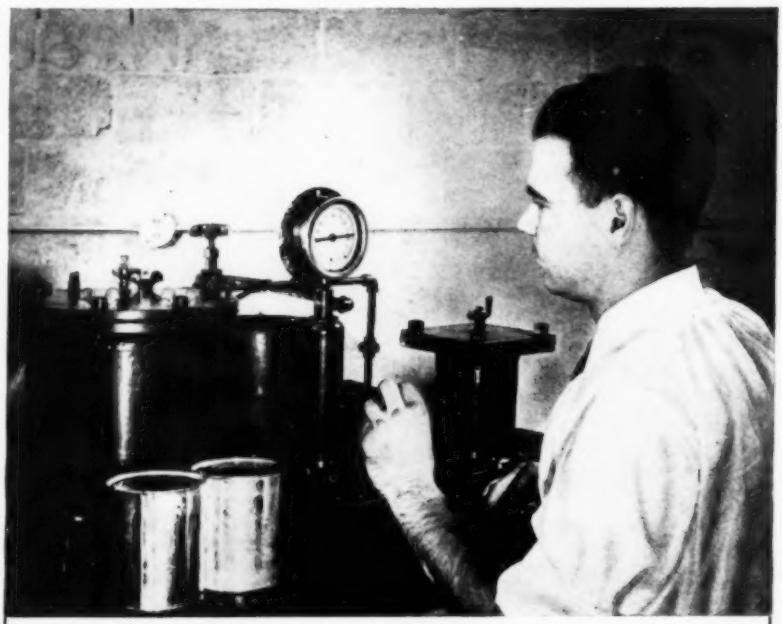
National's Research Department Tackles "Panelling" Problems

Probably everyone has, at some time, seen panelled cans. They are objectionable to packers, largely because such cans are unsightly. A can is called panelled, when the sides are drawn in at one or more places, so that the shape of the can is distorted and the sides are no longer parallel. Panelling results from inability of the can body to withstand the atmospheric pressure on it while there is a vacuum on the inside of the can. This vacuum, normally present in filled processed cans, lowers the resistance of the can body to atmospheric pressure, and therefore sensitizes the body to external shock in handling.

Cans may panel because of the build up of an abnormally high vacuum due to improper packing methods. Or cans of normal resistance may panel because of abnormal conditions of handling, including exposure to low temperatures. In shipment cans frequently receive blows which should panel any can, particularly if the vacuum is temporarily increased by exposure of the canned product to low temperatures. However, such conditions are not normal.

A can should be constructed to withstand normal conditions of packing and handling and here, the first, but not the only matter of importance is the weight of the plate. There are various weights of plate, and various sizes of cans, but the selection of the plate weight and other physical properties are not left to guess-work, or even to the valuable guidance of practical experience.

For selecting the proper weight of plate, as one of the first considerations to prevent panelling of a can, the apparatus pictured at right has been devised through the aid of Research: (52)



The operator merely places a sealed empty can of known plate weight in a sealed chamber, and applies hydraulic pressure to the can. He then watches the gauge as the pressure increases, until the needle stops and drops back. At this point, the can wall resistance starts to break down, and panelling starts. From the pressure, the operator calculates the can resistance to vacuum and this figure, with certain other correlated data, enables him to select plate of the proper weight for the size can he is studying. RESEARCH IS ORGANIZED THINKING.

Something New for '42

National's Chicago Plant Nearing Completion

National Can's new manufacturing plant is rapidly nearing completion. It will be in service at the start of the 1942 season, supplying cans to the trade.

Located in the heart of the strategic Chicago area at West 51st Street and South Austin Ave., National's new plant is accessible to the main highways and railroads of the nation's greatest food-growing region.

It is another strong link in National Can's expanding chain of modern manufacturing plants. Dedicated to the many canners who are part of the National family, this new unit will help them meet the increasing responsibilities of supplying the food requirements of a nation at war. (53)

Anti-Corrosive Paint and Blitzed Machinery

In England, immediately after a blitz, anti-corrosive paint is now being sprayed on machinery of all kinds which has become wet or covered with debris. This is sprayed among the vital parts of the machinery by stirrup pumps, using the fine jet. Anti-corrosive fluids can be easily removed and machines put in running condition with a minimum of delay. This procedure is saving machinery which would rust and deteriorate before the salvage

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BY
NATIONAL CAN

JANUARY PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1942

department could remove it from the gutted premises. (54)

Sleepy Vegetables for Canning

Believing that it will be possible to keep vegetables fresh longer in storage, research men at an agricultural experiment station are conducting experiments with methods of "putting the vegetables to sleep." The procedure is similar to that used with apples. The vegetables are stored in an atmosphere containing controlled proportions of oxygen and carbon dioxide. Fruit will last for a year or more in such an atmosphere, since it is a living thing and takes in oxygen and gives off carbon dioxide. But the experiments have already revealed a significant difference between fruit and vegetable storage. A high carbon dioxide content in the storage room inhibits the "breathing" process of apples, but with vegetables it's just the opposite. For this reason it is removed from the air as soon as it is given off. But when the content of oxygen in the air is lowered from the normal amount of 21 percent to 2 to 5 percent, the vegetables "go to sleep" just as if they were kept in cold storage. The rate of the life processes is reduced to one half, which means that without a change in temperature the storage period could be doubled. Vegetables kept under a low-oxygen atmosphere maintained a high sugar content and a good flavor. And with this method of storage a high humidity can be maintained so that there is little moisture loss. (55)

Synthetic Pine Oil

A new process for the production of synthetic pine oil from turpentine gives a product of substantially the same chemical and physical properties as natural pine oil. This new source will aid in satisfying current increased demands due to defense uses.

Special procedure is necessary in the manufacture of soaps from low grade fats and hard water. The use of sodium silicate with a high SiO_2 content increases the specific gravity of the amino acid molecule so that the usual salting out process is successful in eliminating the excess impurities.

A new material is being studied which will lend germicidal properties to soaps, while at the same time avoiding the disadvantages of toxicity, discoloration, odor, etc., commonly associated with use of germicidal ingredients.

A new method has been offered for the testing of water soluble and water miscible fungicides used in the prevention of the spread of athlete's foot. (56)

Two Years From Seeds to Fruit

Two years from peach seeds to fruit bearing trees! Old Mother Nature's ordinary methods of growth have been speeded up in a series of experiments with embryo culture, recently conducted in California.

The experiments were conducted over a five-year period. Over 5,000 cross pollinated seedlings were grown, most of which were embryo cultures.

Peach seeds were cracked and the kernels removed. These embryos were grown in a nutrient solution of agar, sugar and Vitamin B_1 for two or three weeks. When large enough to transplant, they were placed in clean, washed sand. Three weeks later they were transferred to pots and in nine months to the field.

When this routine is followed, it takes approximately two years for the peach seed to become a fruit-bearing plant. It also results in a much higher percentage of germination of most peach crossed varieties. (57)

Huge Quantities of Paint for Minesweepers

According to reports from Canada their tiny minesweepers alone require 516 gallons of paint for protection against the elements. This quantity includes 20 gallons of red oxide paint, 83 of red lead, 10 of tinting colors, 78 of aluminum paint, 10 of boot topping, 45 of black (non-corrosive), 20 of anti-fouling paint, 100 of battleship grey (marine paint), 50 of flat white, 40 of semi-gloss enamel (interior) and 60 of cork paint. (58)

Lactic Acid from Grapefruit Juice

Discovery of a practical method of making lactic acid from grapefruit juice has been announced by one of the research laboratories of the U. S. Department of Agriculture. Screened grapefruit juice is first treated with calcium carbonate, precipitating the citric acid. The juice is then heated rapidly to 105 deg. F. and allowed to ferment. A little calcium carbonate is added to precipitate out all of the citric acid remaining. And finally the juice is concentrated and the crystals treated with dilute sulphuric acid. The result is said to be pure lactic acid. (59)

Paint Helpful in Blackout

London motorists paint bumpers, fenders and edges of their running boards white to serve as a traffic safety measure during blackouts. To retain the advantages of traffic lights, yet increase the effectiveness of the blackouts, all but a small portion of the glass lenses are obscured with paint. (60)

Technical Topics

PROPYLENE GLYCOL is not harmful when used in flavoring and other foodstuffs, according to a recent ruling by the Food and Drug Administration. Careful investigation has not indicated that there are any harmful effects in the amounts used in foods. (61)

A PASTEURIZER for liquid foods which very quickly brings the product up to pasteurizing temperature without utilizing a high-temperature heating medium has been invented. Heat is applied by spraying hot water against the sides and bottom of a vessel containing the product to be pasteurized, the product being agitated to speed the heat transfer, when the spray is cut off, heating stops completely, avoiding overheating. (62)

STRONTIUM SULPHIDE is proving popular as a phosphorescent material in the manufacture of luminous paints in Britain. The strontium sulphide compositions are preferred to the zinc and calcium sulphide types of phosphorescent materials, it is declared, since they can be made to give a more persistent and more visible blue-green glow. The most satisfactory means in which the strontium sulphide luminous compositions may be utilized, it has been found, is to enclose them between sheets of glass, and waterproof the edges of the sandwich thus formed. Compositions applied as paint in the regular manner have been found to lose luminescent efficiency after a short exposure to the weather. (63)

A PERFUME OIL extracted from coffee-flowers was among the tropical crop experiments described before a recent Puerto Rican scientific agriculture meeting. Samples of the oil were reported as having been highly praised by essential oil dealers in a "blindfold" test. (64)

MICA POWDER, talc, fish scales, and similar scaly substances insoluble or only sparingly soluble in the solvents used in paint removers are suggested by a new British patent for use in the latter type of products, to retard evaporation of the volatile solvents and so facilitate treatment of large areas and promote a more complete action by the paint remover. The scales form a "skin" which retains the solvents, it is stated. (65)

For further information on any of these articles write to National Can Corp., 110 E. 42nd Street, New York City.

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The New 1942 BLUE BOOK

is now in production and will be mailed when completed to every subscriber to *Soap and Sanitary Chemicals*. It is an invaluable reference volume that will find service every day in the year. Keep your copy readily available for day-to-day use. Familiarize yourself with the wide variety of useful information it contains.

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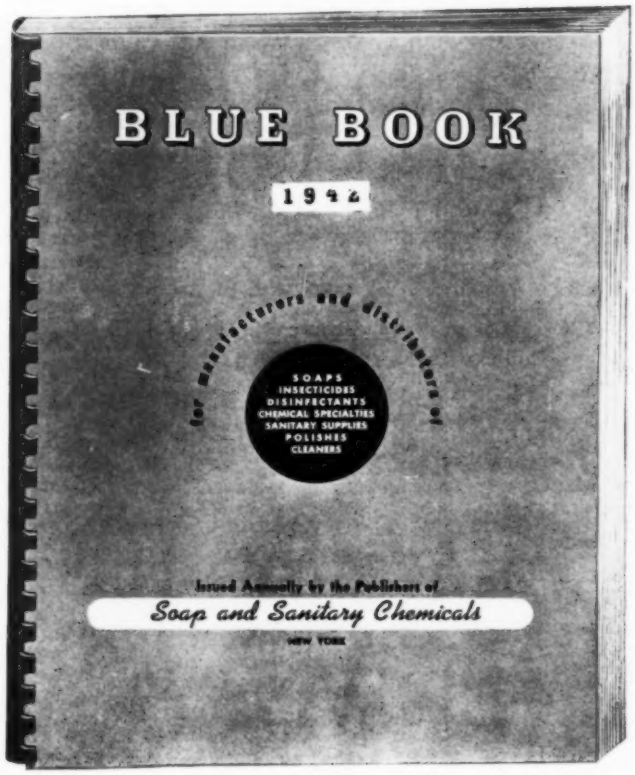

Contents of the New 1942 BLUE BOOK

Soap Specifications—Suggestions as to what a properly drawn specification should and should not cover.

Soap Output—A compilation of figures on the record breaking output during 1941.

Soap Fat Statistics—Data on oil and fat consumption during 1941, together with the latest data on stocks for 1942 use.

Soap Buying Habits—A study of the trend in soap buying habits based on a study of a typical market area.

Rotenone—A study of the rotenone bearing plants, their cultivation, importation, use as insecticides, etc.

Insecticide Regulations — New regulations for enforcement of the Insecticide Act of 1910, with a group of interpretations by enforcement officials.

Quality in Floor Wax—What constitutes a good floor wax? A review and evaluation of comparative importance of gloss, water-resistance, non-slip qualities, ease of application and removal, etc.

Paint Cleaners—A review of the various types of liquid paste, and powdered products on the market, with suggestions for their manufacture.

Index to Soap—Composite index to the monthly issues of *Soap and Sanitary Chemicals* for the past five years.

Testing Section — Latest official methods of the National Assn. of Insecticide & Disinfectant Mfrs. and of the Association of Official Agricultural Chemists for testing the efficacy of insecticides, insecticidal raw materials and disinfectants. Included in this testing section will be the Peet-Grady Test, the Seil Method, Gnadinger-Corl Method, F. D. A. Method, Mercury Reduction Method and Rotenone Determination Method.

Association Officers — A list of officers and directors of important trade groups in the soap and sanitary chemical field.

Plus a complete 125-page Buyers Guide Section listing sources of supply for a complete line of raw materials, machinery and equipment bought by manufacturers of soaps and sanitary chemicals.

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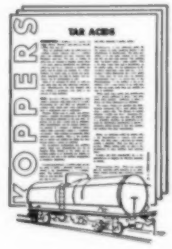

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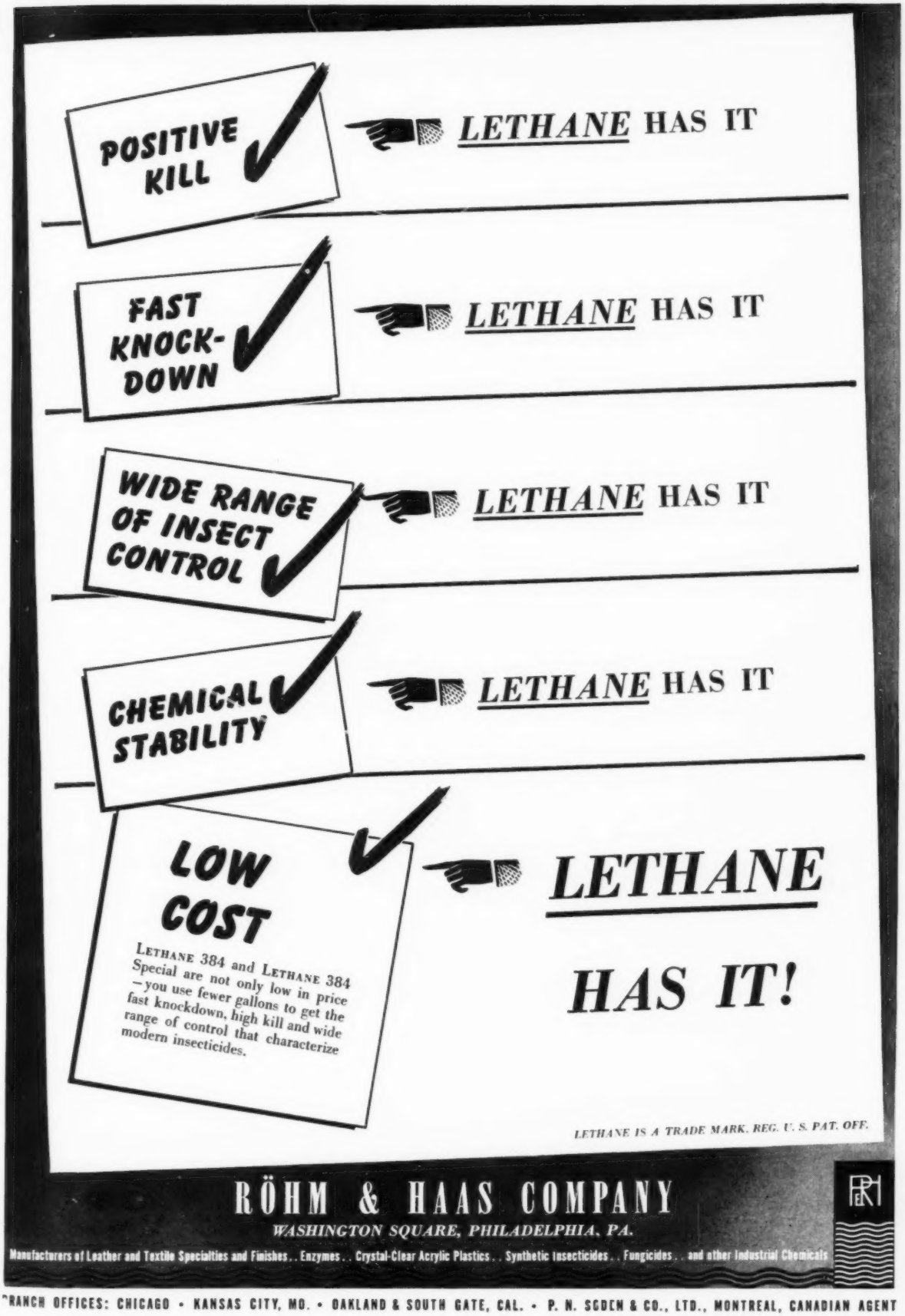
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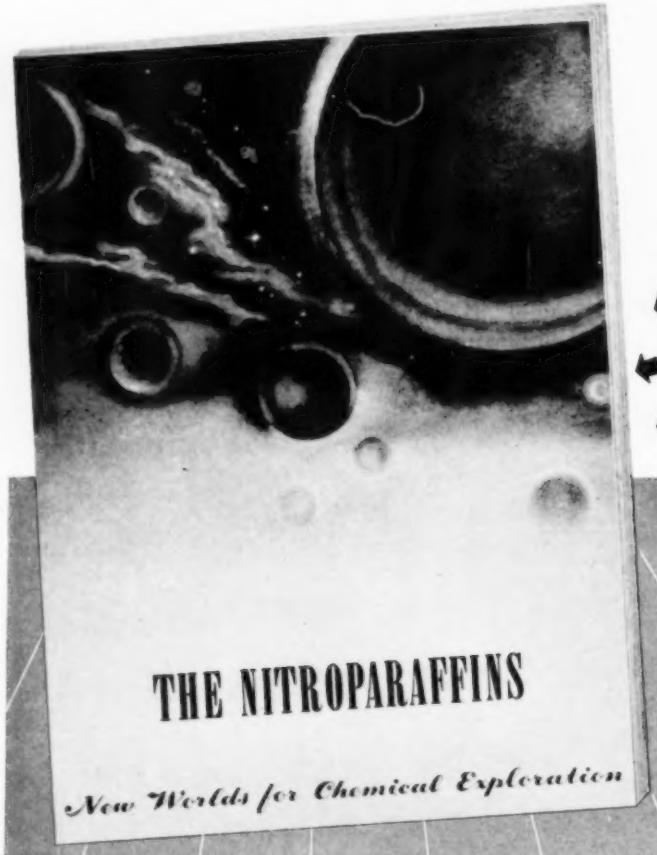

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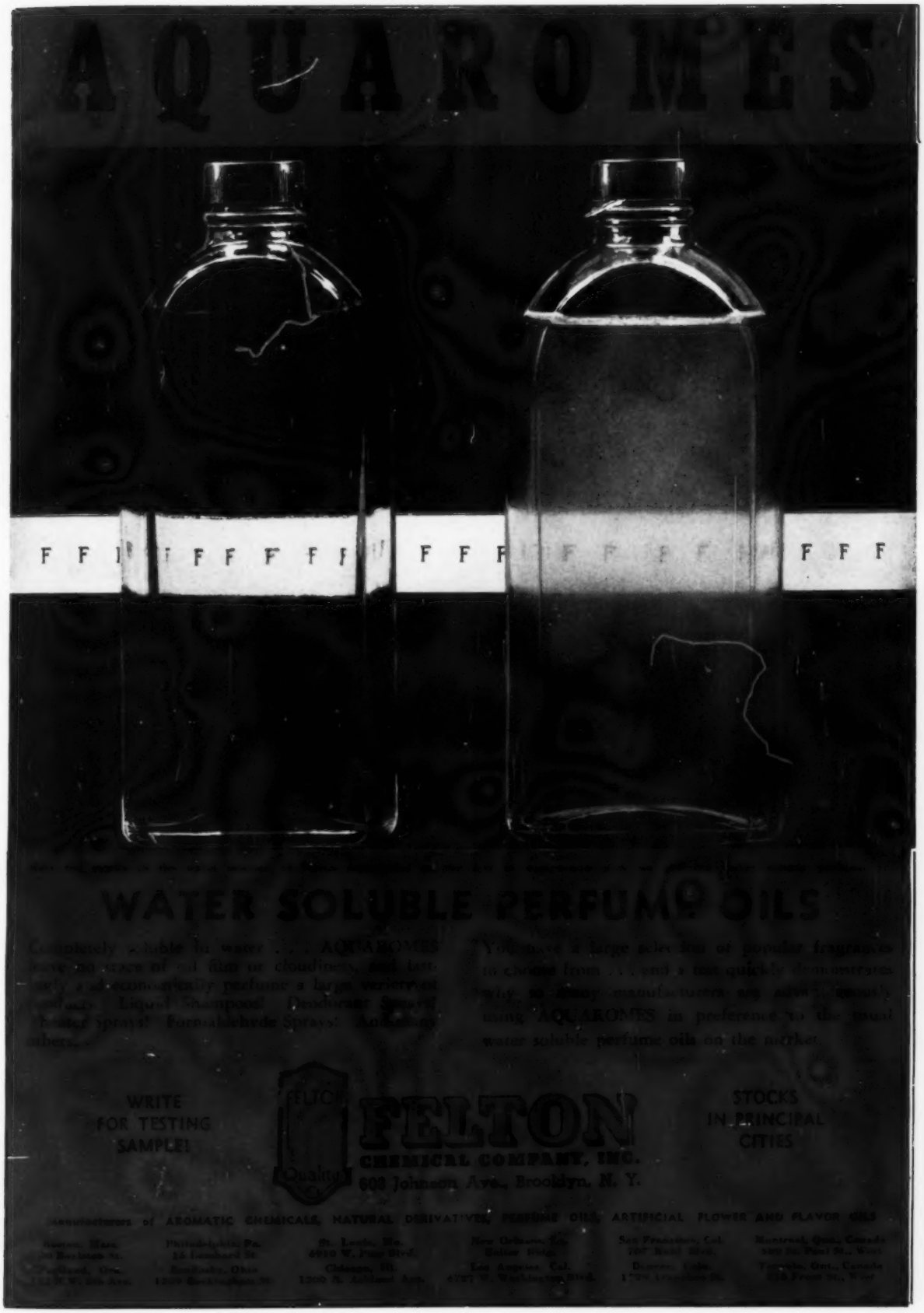
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A SECTION OF SOAP

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

STEEL drums continue to be a headache to most manufacturers. However, some drum troubles, especially drum returns, might be alleviated if manufacturers, and jobbers also, would set up something resembling standard practice in billing and charging for these containers. Among manufacturers of sanitary products, disinfectants, insecticides, liquid soaps, and the like, many firms are now billing the drums as a separate item on the invoice to be credited in full when the drum is returned. Some jobbers are following the same policy. But there are a sufficient number of both manufacturers and jobbers not following this procedure to make it difficult for those who are trying to conserve their drum supplies in this manner.

For several months, practically all suppliers of raw materials have been making a memorandum charge for drums. This system of charging for drums and giving credit upon their return has already become standard and accepted practice among suppliers of oils, chemicals, and other raw materials. Why not also among shippers of insecticides, disinfectants, soaps, and other sanitation materials? The regulations on ceiling prices for used drums, as we understand them, permit a shipper to make a memorandum charge and credit on returned drums higher than the ceiling prices which the O.P.A. has established, provided title to the drums is retained by the shipper and no actual sale of the drums is involved.

There will be difficulties, of course, in administering such a program. Where the buyer refuses to return drums, it will be impossible to enforce the memorandum charges, as the shipper would then be violating the O.P.A. price ceilings. Difficult as enforcement might be, we still believe general adoption of such memorandum charges is advisable. They seem to present the most promising device at hand for conservation of the existing drum supply.

BEFORE the most recent convention of the paint and varnish industry, a paper was delivered on the subject of "What our industry can make—and how." The object of the paper was to show how paint factories could manufacture numerous other items in the present emergency. Among the many products listed were soaps, cleaning fluids, fly sprays, hair tonics, shoe polish,—and, lo and behold, T.N.T.

Granted that the average paint factory has the equipment to manufacture these items, and also that their formulation from the chemical angle is comparatively simple. But when it comes to their practical and economical manufacture in a marketable form and quality, that is a horse of another color. And not so simple as it might appear. The numerous off-quality products in this category which have come to market and failed, bear witness to this fact. The manufacture of soaps, cleaners, polishes, and insecticides is not just having the equipment handy. And we have a hunch the same is true of T.N.T.

Stress Sanitation Need at 28th Annual N

Elect Curlett new president of National Association of Insecticide and Disinfectant Manufacturers at 28th annual meeting, Hotel Roosevelt, December 1-2 . . . Record attendance . . . Baird, Hamilton, new officers . . . Zick, Weirich, White to board . . . consider revision of disinfectant specifications . . . discuss containers, priorities, roach spray test method . . . to continue disinfectant research.

NEED for recognition of the importance of sanitation in the present emergency was emphasized at the 28th annual convention of the National Association of Insecticide and Disinfectant Manufacturers, held at the Hotel Roosevelt, New York, December 1 and 2. Features of the meeting included proposals to adopt new specifications for disinfectants and insecticides, and to continue studies of the effectiveness of disinfectants in preventing transmission of disease. A symposium on containers, reports on cow sprays, new legislation relating to insecticides and disinfectants, a new method of testing roach sprays, and a discussion of sanitary products from the consumer viewpoint were highlights of the two-day meeting. Registration numbered 267, while guests from all parts of the country swelled the total attending the convention to over 300, a record turn-out.

John N. Curlett, vice-president of McCormick & Co., Baltimore, was elected president of the association, succeeding William J. Zick of Stanco, Inc., president for the past two years, who was named to the board of governors. Other officers elected were: first vice-president, Henry A. Nelson, Chemical Supply Co., Cleveland; second vice-president, Gordon M. Baird, Baird & McGuire, Inc., Holbrook, Mass.; treasurer, John Powell, John Powell & Co., New York, and secretary, H. W. Hamilton, White Tar Co. of N. J., Kearny, N. J. Elected as new members of the board of governors for three-year terms were: C. L. Weirich, C. B. Dolge Co., Westport, Conn. and Robert C. White, Jr., Robert C. White Co., Philadelphia.

The need for more publicity for the insecticide and disinfectant industry and for education of the public as to the importance of products of the industry formed the keynote of the president's annual address. Difficulties of obtaining raw materials because of the defense program were mentioned by Mr. Zick, who said, "The possible reason for the inability of our members to get supplies is that people generally do not realize the importance of our products to the general health and well being of the country and its citizens." The industry has not done the educational job of which it is capable, he said. Mr. Zick cited examples of ways in which the industry could disseminate scientific information regarding its products and their essential function in protecting the national health. A rising vote of thanks in appreciation of his two years service was accorded Mr. Zick at the conclusion of his address.

In the secretary's annual report, Ira P. MacNair, MacNair-Dorland Co., reviewed the work of the association over the past year, mentioning legislative activities and the priorities situation. The association's new model state insecticide law is now being whipped into its final form, he said, and will be used as a suggested substitute for improperly drawn legislation, if and when such bills are introduced in state legislatures. The 1941 Official Test Insecticide will remain official until June 1, 1942, Mr. MacNair announced. He recommended that H. C. Fuller be retained during 1942 as Washington consultant to the N.A.I.D.M., which recommendation was approved by the association.

Following Mr. MacNair's report, a nominating committee was elected, consisting of: J. L. Brenn, N. J. Gothard, A. W. Morrisson, Fred Hoyt and William Pollnow.

A SYMPOSIUM on containers featured the first day's opening session. T. E. Allwyn, of American Can Co., New York, who spoke in place of L. A. Trevisan, absent because of sickness, said that regular buyers will probably receive their alloted requirements of tin cans during 1942, but urged that conservation measures and standardization in packaging be practiced. He could give no definite assurances relating to supplies of tin plate. Terne plate, he indicated, is not suitable for the pack-

N. A. I. D. M. Convention

aging of organic insecticides. He voiced the hope, however, that a suitable lacquer for terne plate containers might be developed to make them satisfactory for organic fly sprays.

The situation in glass containers was discussed by Eugene F. Bertrand, of Owens-Illinois Glass Co., Toledo, who painted a fairly optimistic picture of the future of glass bottle supplies. Of the materials needed in glass making: sand, soda ash and lime, only soda ash offers a serious supply problem. "It is possible" he said, "that soda ash will be placed on an allocation basis, and if so, the position of the glass manufacturer should be favorable. Spring will probably present the tightest situation: we feel we will get enough soda ash, but more than likely on a 'hand-to-mouth' basis." To alleviate any possible tightness in glass container supplies, he suggested the elimination of odd shapes, standardization on larger sizes, and elimination of forward buying. To help the paper situation he suggested the substitution of 2-doz. cartons and shipping containers for 1-doz. unit cartons, and 1-doz. for ½-doz., etc. Certain types of glass containers, such as amber glass carboys and 1-gal. bottles are difficult to obtain as the demand seems to be proportionately greater at the present time.

Fred Wohlers, of Hinde & Dauch Paper Co., Sandusky, Ohio, speaking on paper and paper products, urged the membership to study methods for saving paper, stating that some manufacturers could effect savings through eliminating small shipments to one customer and bulking them together in a single carton. He also suggested that in certain cases lighter calibre facings and containers could be used to conform with minimum specifications of the ICC regulations.

A very uncertain outlook was presented by John Gossett, of Wilson & Bennett Manufacturing Co., Chicago, who discussed steel drums and pails. No provisions have been made for deliveries in 1942, he said. Steel pails, of 12 gallons or less, are relatively plentiful, however, he stated. He suggested that manufacturers could aid in the current situation through adopting standard types of containers, using fewer sizes and

Photos below by Charles Opitz of John Opitz, Inc., Long Island City. Other convention pictures were taken by Soap's staff photographer.

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JOHN CURLETT, President
McCormick & Co.

H. A. NELSON, 1st Vice-president
Chemical Supply Co.

GORDON BAIRD, 2nd Vice-president
Baird & McGuire, Inc.

H. W. HAMILTON, Secretary
White Tar Co.

OFFICERS AND GOVERNORS

1942

NATIONAL ASSOCIATION OF INSECTICIDE AND DISINFECTANT MFRS.

President
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McCormick & Co.

1st Vice-president
H. A. NELSON
Chemical Supply Co.

2nd Vice-president
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National Assn. of Insecticide and Disinfectant Mfrs.

PRESTON HELLER
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W. J. ZICK
Stanco, Inc.

E. G. KLARMANN
Lehn & Fink Prods. Co.

types, by substitution of wooden barrels for steel drums wherever possible, and by re-use of containers. Many industries bill out their drums on a memo basis at a price considerably higher than the customer could secure by selling the drum to a second-hand dealer, and the return of the steel drums is thus insured. He recommended this practice.

C. L. Fardwell, McCormick & Co., chairman of the legislative committee, reported on recent legislation in various state legislatures pertaining to insecticides and disinfectants. To quote from his report, "Bills highly objectionable to our industry were introduced in Ohio, Indiana, Oklahoma, Pennsylvania and Wisconsin. Our analyses of these proposed bills showed many impractical features and they were strongly opposed or amendments were offered by the N.A.I.D.M. to correct the objections." Mr. Fardwell called attention to the following legislation: a new law in Washington requiring registration of economic poisons; label declarations of active and inert ingredients of insecticides in Minnesota required under the present law; a reduction in the appropriation for the enforcement of the Federal insecticide and fungicide law, and other new developments. Legislatures of eight states will meet in regular sessions in 1942, Mr. Fardwell reported.

A FEATURE of the Monday afternoon session was a talk entitled "Viewing Insecticides, Disinfectants, Waxes, etc., from the Consumers' Side of the Fence" by E. Freedman, director of the bureau of standards, R. H. Macy & Co., New York. Mr. Freedman commented on a number of moth products, floor waxes, furniture polishes, metal polishes, spotting fluids, and other sanitary products (without mentioning brand names) which had been investigated by Macy's and found wanting. He cited customer complaints relating to the various products, emphasizing the need for yardsticks with which to evaluate the efficiency and potency of more of the products, and the need for more education of consumers as to the adaptability and use of the various types of products. He concluded his talk with the following plea: "Help educate consumers to a better understanding of their problems—which, after all, are also your problems."

"What a 'Cow Man' Expects of a 'Cow Spray,'" by A. O. Shaw, professor of dairy husbandry, Kansas State College of Agriculture, Manhattan, Kansas, summarized tests on representative prepared and commercial cow sprays at the experimental farm of the state college. The efficiency of the insecticides under test and their effect on milk production, have been studied over a two-year period. The following conclusions were drawn: that the commercial fly sprays tested were effective in reducing the number of flies per cow an hour, four hours, and even eight hours after spraying; that use of the cow sprays under test did not decrease milk production, neither did it increase milk production. Careful control of all variables was exercised in the tests, and the Latin Square method of rotating the cows, using a randomized plan, was employed.

The evolution, development and present trend of floor waxes were covered by C. S. Kimball, of Foster D. Snell, Inc., in a talk entitled "What Is Happening to Floor Waxes." Old formulas of floor waxes, their costs of manufacture and their selling prices in 1932 were contrasted with conditions at present, resulting from the high cost of carnauba wax. The limited uses to which shellac, casein, candelilla, and ouricury can be applied as carnauba substitutes were mentioned. Small manufacturers are having difficulty obtaining blending agents, said Mr. Kimball. He stated that many of the products now on the market as floor waxes contain little or no wax, as based on actual analysis, and predicted that the question of nomenclature might arise if the present trend continues.

H. C. Fuller, the association's Washington consultant, in talking on "Problems in Washington with particular reference to the Defense Program," recommended that a set of regulations be drafted to accompany the model insecticide and fungicide bill of the association. He emphasized that the association "is almost compelled to search out full information concerning its raw material requirements, and be in a position to press its claims comprehensively when asking for allotments." Speaking on raw material supplies, he stated that ample supplies of pyrethrum should be available because more flowers were cropped in Kenya last season than could be taken over by the trade."

After Mr. Fuller's report, a motion picture in color, "The Study of Economic Poisons," was presented by Dr. Alvin J. Cox, chief, bureau of chemistry, department of agriculture, Sacramento, California, thus concluding the first day's session.

MEMBERS of the industry were urged to keep their inventories at normal levels in a report for the priorities committee presented by J. L. Brenn, of Huntington Laboratories, Huntington, Indiana, at the Tuesday morning session. Anticipating needs and building large stocks has been the basis for many shortages, he said. A company must lay itself open to inspection when it wants assistance from the OPM in getting supplies, he reminded, and excess stocks are not liable to be looked on with favor. A three month's inventory of supplies is enough, Mr. Brenn declared. He concluded his talk with an explanation of the regulations covering second-hand drums.

The report of the insecticide scientific committee, submitted by Dr. A. E. Badertscher, of McCormick & Co., called attention to the work of the committee on "Variation in Peet-Grady Tests" summarized by Dr. Jared H. Ford (*Soap and Sanitary Chemicals*, November, 1941) in which the effects of using reduced dosage and reduced exposure time were studied. Dr. Badertscher announced that, due to the possible shortage of gray bogus paper, kraft paper may be used as a substitute for covering the floor of the Peet-Grady chamber. More frequent changes of the paper are necessary when kraft is used, he said. Referring to spray containers, he suggested that certain

sizes having a high area-volume ratio be eliminated as a conservation measure. Although terne plate is not recommended for insecticide containers, he said it could be used in making sprayers, as the insecticide does not remain in contact with the terne plate long enough to be affected. The subcommittee on moth proofing, headed by Fred Fletcher, stated that its report would appear in an early issue of *Soap and Sanitary Chemicals*.

"The Canada Pest Control Products Act and Its Enforcement," was discussed by A. M. W. Carter, inspection assistant, department of agriculture, Ottawa. The act does not apply to materials intended for manufacturing purposes, nor in practice has it been applied to medical disinfectants or to disinfectants intended for personal use. In applying for registration of products, the entire formula must be disclosed in confidence, he said. Only eight sizes of containers are allowed and products may be rejected on the basis of their value, danger in use, labeling, faulty instructions for use, etc.

Dr. Lon A. Hawkins, in charge, division of control investigations, bureau of entomology and plant quarantine, U. S. Department of Agriculture, Beltsville, Md., read a paper on "A Preliminary Report of a New Laboratory Method for Testing Roach Sprays," prepared by E. R. McGovran and J. H. Fales of the division. The method, which employs a new departure in the form of a pendulum device for applying fixed quantities of spray deposit at regular intervals, was described in detail by Dr. Hawkins. The new development permits of the measurement of quantities of spray dispersed in small measurable intervals of time.

Following this talk, Dr. R. C. Roark, of the U. S. Bureau of Entomology, demonstrated and explained a new method of applying insecticides using a small pressure cylinder containing the active principle dissolved in a liquefied gas under a pressure of 95 pounds per square inch. When the pressure is released, the liquefied gas immediately volatilizes leaving the pyrethrins or other active principles suspended in colloidal form in the air. The solvent used by Dr. Roark was dichlorodifluoromethane, which has a boiling point of —29.2° F., and is non-inflammable. Said to be especially effective for killing mosquitoes in airplanes and for control of bed bugs, the method shown by Dr. Roark delivers at the rate of about 100 cc. per min. Cost of the solvent was said to be 27 cents a pound.

DR. D. P. MORGAN, assistant supervisor, chemicals section, Office of Production Management, Washington, D. C., speaking on "Priorities as They Relate to Chemicals and Allied Products," said that a rumor that allocations would supersede the priorities system on an all-out basis was unfounded. "I fail to see," he said, "how allocation on a pound-for-pound basis would be an improvement on the preference rating system." About 100 chemicals should be placed under allocations, he said, but many other chemicals provide such complicated problems that a staff large enough to allocate them just does not exist at present. He implied that when chemicals are placed under allocations, preference ratings will be used as a basis of operations. Preference ratings work satisfactorily, he said, where only small percentages of the total production go to defense. Where more than 50 per cent of the production goes to defense, allocations become desirable.

A question from the floor by A. L. Van Ameringen, Van Ameringen-Haebler, Inc., as to whether certain shortages were due to overstocking by the Army and Navy was answered

in the affirmative by Mr. Morgan. However, he said, Washington cannot be blamed for the way in which it has handled these very difficult problems. Another question from the floor as to whether industry could assist Washington in working out the details of supply problems was answered in the negative. Organizing industry for this purpose has been a failure, Mr. Morgan said. It has been found better to avoid assistance from sources which might be biased or incompletely representative of the industry.

Dr. Emil Klarmann, chief chemist for Lehn & Fink Products Corp., Bloomfield, N. J., in reporting for the disinfectant scientific committee, presented his paper on "Scientific and Technical Advances in 1941 in Disinfectants and Antiseptics" by title only. A proposed method for testing athlete's foot preparations (published *Soap and Sanitary Chemicals*, December, 1941) has been approved by most of the few responding members, he said, and will be made official at the June meeting. The problem of standardization of microorganisms for use in testing disinfectants has not yet been solved, he reported, and with the present methods it is difficult to maintain microorganisms at a constant level of resistance to a given phenol coefficient.

He then discussed the advisability of revising the association's specifications for phenolic type disinfectants during the present emergency. Specifications CS-70 and CS-71 provide a minimum percentage of active ingredients, and at the present time there is not enough cresol, cresylic acids and phenols to go around. He suggested the elimination of specifications for minimum percentages of active ingredients as a temporary measure, and proposed adding specifications to cover synthetics such as alkyl, aryl and aralkyl phenols and their monobrominated or monochlorinated derivatives, as fortifying agents, or as sole active ingredients. In fortified soluble or emulsified disinfectants, he suggested that the added agents total not more than 25 per cent of the active ingredients.

Discussion from the floor by Dr. Wm. Dreytus, West Disinfecting Co., suggested the complete elimination of quantitative and qualitative specifications as to ingredients, preserving the phenol coefficient as a measure of the value of the disinfectant.

Dr. G. J. Hucker and W. G. Walter, N. Y. Experimental Station, Geneva, N. Y., presented reports on their N.A.I.D.M. fellowship studies of "The Presence of Certain Pathogenic Microorganisms on the Walls and Floors of Public Buildings" and "The Effectiveness of Disinfectants in the Removal of Pathogenic Microorganisms from Wooden Surfaces." About 60 per cent of the toilet seats in a number of public schools showed positive results when examined for Type A—beta hemolytic streptococci, it was reported. Their presence was also shown on door knobs, faucet handles, floors, boards, etc. Slides were shown illustrating resistance to various types of disinfectants. The work of Dr. Hucker and Mr. Walter, because of its satisfactory progress, will be carried through the first quarter of 1942. The reports are to be edited and published at an early date.

Dr. C. C. McDonnell, chief, insecticide division of the Agricultural Marketing Service, U. S. Department of Agriculture, speaking on "The New Regulations for Enforcement of the Insecticide Act of 1910," answered numerous questions relating to packaging, hearings, seizure action, labeling, responsibility of manufacturer, etc., which had been submitted by the industry. He brought out that no government agency recommendations may be quoted so as to be misleading, and reminded his listeners particularly that the Federal government does not endorse proprietary items. He also explained that a concern which buys an insecticide in bulk and repacks it under its own label is responsible for the product under the law.

Following suggestions from the floor that the mid-year meeting (June 8-9) be held at a resort locality, after bids were received for Cleveland and Hershey, Pa., the convention voted to ballot by mail on the question of the exact location.

J. L. Brenn, speaking for the board of governors, proposed that dues for active members be raised from $75 to $100 and that dues for associate members be raised from $50 to $75. This proposal is to be voted on at the June meeting.

Esler Johnson, president of Pacific Insecticide Institute, who was introduced as a guest, recommended that the industry's requirements for 1942 be tabulated and presented to the government in an attempt to obtain its raw materials needs more promptly. This had been done by his organization, he said, with excellent success.

The resolutions committee, composed of C. P. McCormick, chairman; Gordon M. Baird; H. M. Clark; C. L. Weirich and F. I. L. Lawrence, submitted the following resolutions which were adopted unanimously:

Resolutions

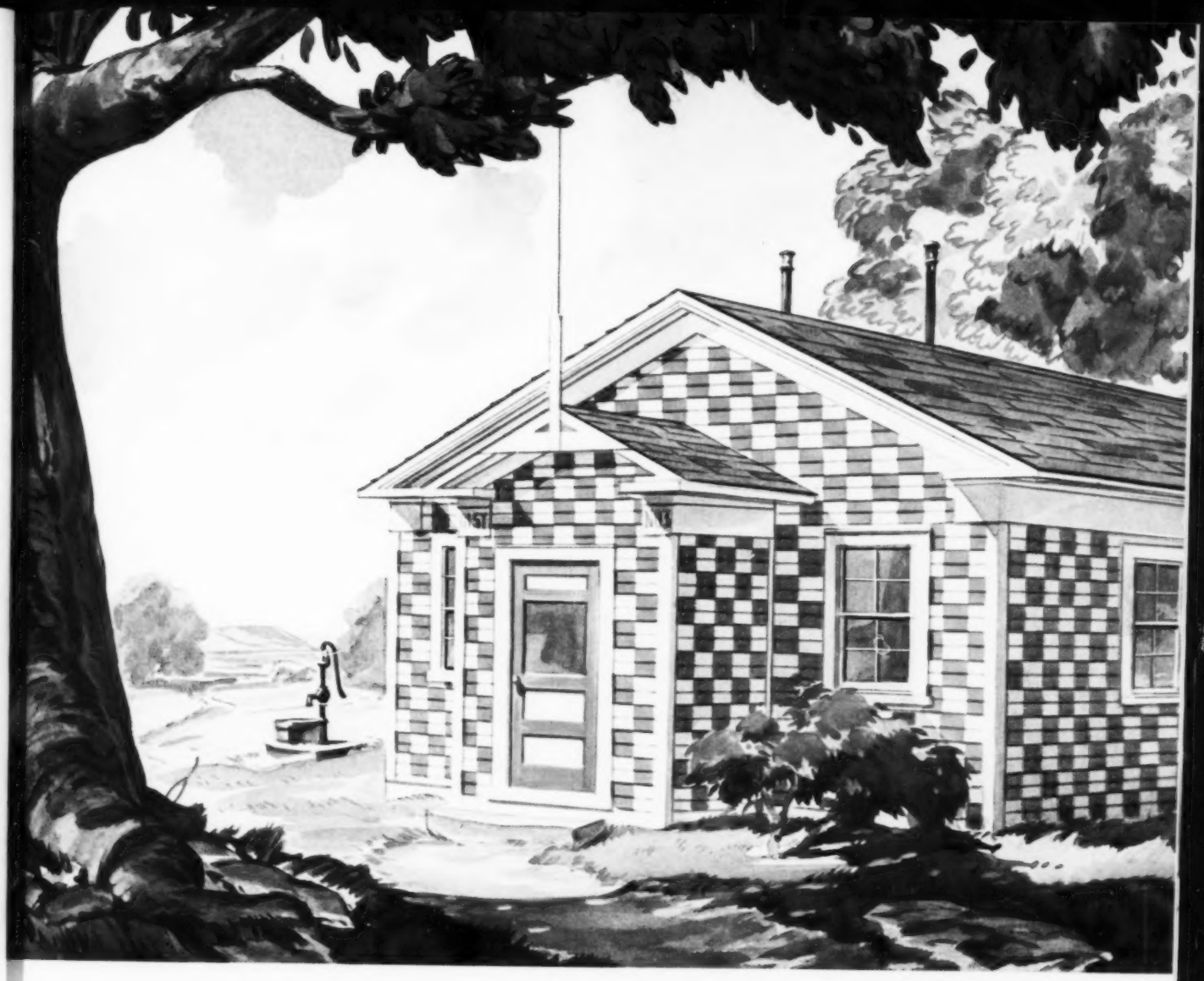
(1) RESOLVED that we publicly appreciate the untiring efforts of President William J. Zick, and that we hereby record the fact. His terms of office have been successful and inspirational and we thank him for all his time, energy and devotion that he has put to this task.

(2) RESOLVED that the association also thank Ira P. MacNair for the forceful handling of the delicate position of secretary through these trying times. His tact and his directness have served to make the association better known and more recognized. In relinquishing this office, we wish to thank him in advance for the continued helpfulness to his successor, as he has always been faithful and loyal to its policies.

(3) RESOLVED that the by-laws of the association be amended to increase the membership fee $25.00 for active as well as associate members.

(4) RESOLVED that whenever possible the consumers of the various products manufactured by

(*Turn to Page* 123)



The school with the packaging problem

It was just 100 years ago that the quiet little town of Franklinville, New York, ran into quite a packaging problem. It concerned color.

Choosing the right colors for any kind of package is always a problem. Franklinville's choice started a feud.

Fire destroyed the original schoolhouse and a new one was built. One group wanted to paint the school white. Another faction held out for red paint. Words flew thick and fast. Arguments grew bitter. Finally, the "Whites" won the verdict.

The others didn't accept the decision. They met one moonlight night and painted red checkered squares on the white paint. As a compromise the school has remained red and white ever since.

In business, color in packaging must be just right and please everyone—from the manufacturer to the consumer. Colors must attract, harmonize, and be practical.

Being able to choose the right colors for the package *and* the product is the mark of a packaging expert. The correct use of color in designing packages is but one of the many features of Continental's complete packaging service.

The best design will not be successful unless it's reproduced perfectly. The best looking package will not be a success if it is not convenient for consumers or if it does not protect its contents fully.

Our complete service takes in every angle of good packaging. If you have a packaging problem, call Continental.

CONTINENTAL CAN COMPANY

New York Chicago San Francisco Montreal Toronto Havana

Defense Savings Pay-Roll Allotment Plan

How company heads can help their country, their employees, and themselves

voluntary pay-roll allotment plan **helps** workers provide for the future
helps build future buying power
helps defend America today

This is no charity plea. It is a sound business proposition that vitally concerns the present and future welfare of your company, your employees, and yourself.

During the post-war period of readjustment, you may be faced with the unpleasant necessity of turning employees out into a confused and cheerless world. But you, as an employer, can do something *now* to help shape the destinies of your people. Scores of business heads have adopted the Voluntary Pay-roll Allotment Plan as a simple and easy way for every worker in the land to start a *systematic* and *continuous* Defense Bond savings program.

Many benefits . . . present and future. It is more than a sensible step toward reducing the ranks of the post-war needy. It will help spread financial participation in National Defense among all of America's wage earners.

The widespread use of this plan will materially retard inflation. It will "store" part of our pyramiding national income that would otherwise be spent as fast as it's earned, increasing the demand for our diminishing supply of consumer goods.

And don't overlook the immediate benefit . . . money for defense materials, quickly, continuously, *willingly*.

Let's do it the American way! America's talent for working out emergency problems, democratically, is being tested today. As always, we will work it out, without pressure or coercion . . . in that old American way; each businessman strengthening his *own* house; not waiting for his neighbor to do it. That custom has, throughout history, enabled America to get things done *of its own free will.*

In emergencies, America doesn't do things "hit-or-miss." We would get there *eventually* if we just left it to everybody's whim to buy Defense Bonds when they thought of it. But we're a nation of businessmen who understand that the way to get a thing done is to *systematize* the operation. That is why so many employers are getting back of this Voluntary Savings Plan.

Like most efficient systems, it is amazingly simple. All you have to do is offer your employees the convenience of having a fixed sum allotted, from each pay envelope, to the purchase of Defense Bonds. The employer holds these funds in a separate bank account, and delivers a Bond to the employee each time his allotments accumulate to a sufficient amount.

Each employee who chooses to start this savings plan decides for himself the denomination of the Bonds to be purchased and the amount to be allotted from his wages each pay day.

How big does a company have to be? From three employees on up. Size has nothing to do with it. It works equally well in stores, schools, publishing houses, factories, or banks. This whole idea of pay-roll allotment has been evolved by businessmen in cooperation with the Treasury Department. Each organization adopts its own simple, efficient application of the idea in accordance with the needs of its own set-up

No chore at all. The system is so simple that A. T. & T. uses exactly the same easy card system that is being used by hundreds of companies having fewer than 25 employees! It is simple enough to be handled by a check-mark on a card each pay day.

Plenty of help available. Although this is *your* plan when you put it into effect, the Treasury Department is ready and willing to give you all kinds of help. Local civilian committees in 48 States are set up to have experienced men work with you just as much as you want them to, and no more.

Truly, about all *you* have to do is to indicate your willingness to get your organization started. We will supply most of the necessary material, and no end of help.

The first step is to take a closer look. Sending in the coupon in no way obligates you to install the Plan. It will simply give you a chance to scrutinize the available material and see what other companies are already doing. It will bring you samples of literature explaining the benefits to employees and describing the various denominations of Defense Savings Bonds that can be purchased through the Plan.

Sending the coupon does nothing more than signify that you are anxious to do *something* to help keep your people off relief when defense production sloughs off; *something* to enable *all* wage earners to participate in financing Defense; *something* to provide tomorrow's buying power for your products; *something* to get money *right now* for guns and tanks and planes and ships.

France left it to "hit-or-miss" . . . and *missed. Now* is the time for *you* to act! Mail the coupon or write Treasury Department, Section A, 709 Twelfth St. NW., Washington, D. C.

FREE - NO OBLIGATION

Treasury Department, Section A,
709 Twelfth St. NW., Washington, D. C.

Please send me the free kit of material being used by companies that have installed the Voluntary Defense Savings Pay-Roll Allotment Plan.

Name _____

Position _____

Company _____

Address _____

GPO 428498

Sanitary Products

. . . their important function in protecting public health

By W. J. Zick*

ONE of the reasons responsible for the inability of some firms in the sanitary products field to get needed raw materials is that people generally do not realize the importance of our products to the general health and well being of the country. The association has never gone as far as it might in educating the public along these lines, although one of the objects in formation of the association was to "collect and disseminate information of interest to the members and of benefit to the trade."

Insecticides are generally erroneously thought of as fly sprays and apparently the priorities division of O.P.M. is of the same opinion. Fly sprays on first thought give no indication of their importance to the health of the people. Yet a recent announcement of the American Public Health Association states that flies carry or spread infantile paralysis. Mosquitoes carry malaria and yellow fever and are responsible for the spread of sleeping sickness among humans and horses. Yellow fever and malaria spread by mosquitoes almost prevented the building of the Panama Canal. Bed bugs and cooties are a serious detriment to the health and comfort of the troops in the field.

Disinfectants, too, are essential to the health of the nation. Sanitation in the broad sense is absolutely essential to national health and the products of our industry are essential to proper sanitation measures.

During a period of national emergency, we are trying to conserve on everything. Woolens are expensive and may be scarce and should be conserved. Protecting garments against moth damage would help accomplish this purpose.

There is an educational job to be done in this connection as an association, and by the members individually. Just telling the story once is not the answer, it's repetition that counts. One of our member firms has recently used on their letterheads an Associated Press release captioned "Doctors Find Paralysis Virus is Transmitted by Common Fly." This is one way of telling the story. This is one means of disseminating information — there are many others. This is one member's effort and we have 99 members.

Some organized, constructive method of doing an intelligent educational job is necessary—not to expand our industry—but to protect it and to prevent its possible destruction by uninformed officials who have never heard of our products or have never been told how important they are to the health and well-being of the nation.

How this shall be accomplished must be worked out. The aid of the United States Public Health Service should be enlisted and your Senators and Representatives should be included on the list of people who must be informed of the products you make and their importance to national health. We have a real story to tell—and the facts to back up our story—but we have kept it almost a secret. We have not done the educational job of which we are capable.

The amount of raw materials required by our industry in any one category, such as containers, petroleum, botanicals, chemicals, etc., is relatively small and would do little in the way of curtailing other defense projects. For the small amount of material involved the results will be very important to the health of the nation.

Incidentally, Mrs. Roosevelt's column "My Day" in a recent issue of the *New York World-Telegram* refers to the problems of another industry—the manufacture of wire screens—and the possible bad effects of any interruption in production on the health of the community. It is pointed out that "screens are of vital importance in our camps and in all our defense industry buildings. Without them we lay ourselves open to epidemics of all kinds which are spread by flies and mosquitoes."

If Mrs. Roosevelt says that wire screening is essential to the health of the nation, certainly she should agree that the products of the insecticide and disinfectant industry are equally as important. "An ounce of prevention is worth a pound of cure." Let's protect our industry now—with an educational campaign emphasizing its important function in protecting the public health—and not save our story until after we have been forced to shut down.

* Before Natl. Assn. Insecticide & Disinfectant Mfrs., December 1, New York.

For
President

DISINFECTANTS AND ANTISEPTICS

SCIENTIFIC AND TECHNICAL ADVANCES DURING 1941

*By Dr. Emil G. Klarmann**

Chief Chemist, Lehn & Fink Products Corp.

ANOTHER annual survey of literature on developments in the field of antibacterial agents and processes is presented at a time when, due to war conditions, some worthwhile information of foreign origin, may not be accessible for study and abstracting. An attempt to make up for any omissions from this source must be postponed to a more propitious time.

Phenolic Materials

C. M. Suter (1) published a comprehensive (though not entirely complete) review of literature dealing with the relationships between the chemical structure and germicidal properties of the many types of phenol derivatives prepared and studied by different investigators, particularly in recent years. This compilation deserves careful study on the part of those who wish to orient themselves in this field, e. g., prior to embarking upon any further research of their own. It would be most desirable if similar compilations were made available from time to time of papers dealing with the problem of the relations of structure and antibacterial action of other chemically related groups, e. g., those of quaternary ammonium compounds, organic mercurials, etc.

With reference to the question as to the mode of the antibacterial action of phenol, the paper by E. A. Poole and C. N. Hinshelwood (2) merits attention. These authors studied the effect of the addition to cultures of *B. lactis aerogenes* of phenol in quantities insufficient for bactericidal action. At a point at which a stationary stage was reached the condition was found to be due to an actual cessation of cell division, rather than to the establishment of a balance between the division and death rates.

E. J. Ordal (3) contributed a paper to the existing literature on the effect of the introduction into the phenol nucleus of chlorine. Like previous investigators he, too, found an appreciable increase of the germicidal potency in the series: phenol to o-chlorophenol to 2, 4 dichlorophenol to 2, 4, 6 trichlorophenol. He also confirmed preceding findings to the effect that the free phenols are many times as active as the corresponding phenolates.

A toxicological examination of the higher-molecular alkyl phenolic fractions obtained from petroleum, by J. Campbell (4) reveals these materials as being significantly less toxic and less irritant than cresylic acid. While it is known from studies on pure phenol derivatives that the increase of germicidal potency with increasing molecular weight of the side chain is accompanied by a concurrent drop in toxicity to animals (5), it is noteworthy that certain fractions of these petroleum acids can be formulated into compositions in which they yield dilutions bactericidal for *Staphylococcus aureus* and *Escherichia coli*, but non-injurious to growing embryo chick heart tissue.

Several patents were granted for various phenol derivatives. L. E. Mills and C. M. Galloway received a patent for halogen substituted polyalkyl phenols, e.g., 2-chloro-4,6-ditert.butyl phenol (6), while the former obtained a patent for tertiary-alkyl mono- and polyhalophenols (7) (e. g., 2-chloro-4-tert. butyl-6-methylphenol, 2, 6-dichloro-4-tert.amyl phenol, etc.), and another for cyclohexyl halophenols, such as 4-cyclohexyl - 2 - bromophenol (8). E. C. Britton, G. H. Coleman and R. F. Perkins (9) patented branched chain alkyl phenylphenols of the type of 4-sec. butyl-6-phenylphenol. Aralkyl phenols, e. g. p - (alpha - phenylisopropyl) phenol and aralkyl polynuclear phenols, e.g. 6-(alpha-phenylisopropyl) - 2 - hydroxydiphenyl are covered by two patents (10, 11), granted to R. P. Perkins and F. Bryner. Halogenated dihydroxydiphenylmethane derivatives said to be bactericidal and antiseptic are covered by a patent issued to W. S. Gump (12); an example is 2,2'-dihydroxy-3,5,6,3',5',6'-hexachlorodiphenylmethane. Condensation of monohydric alcohols with phenol in acid solutions, and in the presence of condensing agents, e. g., zinc chloride is referred to in a patent granted to R. R. Read (13); tert. hexyl guaiacol and sec. amyl-m-cresol are examples.

The method of producing dialkyl phenols from the corresponding 2-halo-1,4-dialkylbenzenes by hydrolysis with sodium hydroxide at temperatures of 200 to 300° C. in the presence of a cuprous oxide catalyst is described in a patent granted to C. L. Moyle and E. M. Van Duzee (14). Among the compounds obtained by this method are 2,5-diisopropylphenol, 2 - ethyl - 5 - sec. amylphenol and others.

The antibacterial action of ointments prepared with different phenols, is the subject of an interesting study by C. B. Burnside and R. A. Kuever (15). In the first place, phenol ointment was found to be non-antiseptic when tested by the F.D.A. method. Like phenol, the phenol derivatives: p-hydroxydiphenyl, trinitro-

*Before Nat. Assn. Insecticide and Disinfectant Mfrs., New York, December 2, 1941.

phenol resorcinol and others show no antiseptic qualities when incorporated in the U.S.P. formula ointment base. The authors recommend another base, of an emulsion character, prepared with the aid of "Gardinol" as emulsifying agent and containing a small proportion of water and propylene glycol in which the compounds in question display demonstrable antiseptic action. Phenol itself used in the proportion specified for the U.S.P. phenol ointment gives a zone of inhibition of six millimeters.

C. L. Weirich (16) obtained a patent for a prophylactic preparation for athlete's foot, containing as active ingredient p-nitrophenol and a salt to enhance its fungicidal action.

R. S. Law (17) reports upon the fitness as preservative (for casein, glues, starches, etc.) of two forms of chlorothymol, one a solid obtained from pure thymol, the other a liquid produced by chlorinating thymol bearing oils. Comparable results were obtained for both types.

While on the subject of the antibacterial action of phenols, it is of theoretical interest that there are several species of soil bacteria which resist the action of phenol, particularly in lower concentrations. R. Bartels (18) correlates this resistance with the power actually to destroy phenol. The following new species of bacteria are described which actually will withstand a concentration of 0.04 M (or 0.38 per cent) of phenol: *B. phenolphilos, B. nigrescens, B. jubatus, B. balcanus, B. globifer, B. catenulatus, B. oehensis, B. exilis.* Some soil bacteria produce small amounts of phenol. A known species, viz., *B. asterosporus* has the capacity of splitting phenol.

Pine Oil Disinfectant

AN article by G. F. Reddish (74) deals with the disinfectant value of pine oil emulsions. Using a product prepared according to the formula of the Hygienic Laboratory, Reddish determined the germicidal effect of this pine oil disinfectant upon 12 pathogenic microörganisms of epidemiologic significance. He concludes from these tests that a pine oil disinfectant made from a good grade of pine oil possesses sufficient germicidal strength for general disinfecting purposes; at the same time, they are non-caustic and non-irritating. They are not to be used, however, as antiseptics on the skin, or for the disinfection of surgical instruments since they are not effective against suppurative organisms.

A patent granted to E. Klarmann (75) covers germicidal preparations consisting of combinations of alpha-terpineol or of pine oil with halogenated phenols which show a materially enhanced bactericidal efficacy over the calculated figure based upon a putative additive effect. It is noteworthy that such combinations are effective also against resistant hemolytic streptococci which are not affected by the pine oil (or alpha-terpineol) emulsions alone.

Organo-mercurials

FURTHER additions were made to the almost "astronomical" number of patented organic mercury compounds. As has been pointed out in previous reports, great care is required in evaluating the antibacterial properties and practical applicability of this type of products whose effect is bacteriostatic, as a rule, rather than bactericidal. (Where bactericidal action is claimed, e.g., in commercial preparations, such an effect may be due in a marked degree to the solvent employed, such as alcohol alone or with acetone which in the concentration used as a rule is possessed of bactericidal action.

A patent covering mercurated and halogenated phenylphenol derivatives was granted to H. Worne and J. S. Pierce (19); anhydrohydroxymercuri-4-chloro-o-phenylphenol is an example of the class covered. Germicidal compounds obtained by the mercuration of alkyl phenols were patented by W. G. Christiansen (20, 21); examples are anhydro-mercuri-4-chloro-3, 6-dimethylphenol or acetoxymercuri-3-methyl-4-nitro-6-isopropylphenol. C. N. Andersen (22) received a patent for aromatic mercury sulfonates, e.g., phenylmercury sulfanilate, etc., said to combine strong germicidal power with low toxicity. Organomercury compounds of the general formula RHgR' in which R is an aromatic radical and R' a radical of a higher fatty acid containing a sulfonic group are covered in a patent issued to C. Johnson and W. M. Allison (23); decylphenylmercuric sulfate is an example.

Mercuration of cyclic compounds not of benzene character is referred to in the patents granted to R. R. Burtner (24, 25), and to R. N. Shreve and M. W. Swaney (26); the former describes the preparation of furyl-mercury derivatives, such as furyl mercury chloride, the latter that of pyridyl mercury compounds, e.g., 3-pyridylmercuric nitrate.

According to A. M. Powell and W. A. Jamieson (27), sulfomerthiolate (sodium p-ethylmercurithiophenyl sulfonate) is similar in antiseptic action to merthiolate (sodium ethylmercurithiosalicylate); the former compound inhibits *Staphylococcus aureus* and *Eberthella typhi* in serum in concentrations of 1:2000 to 1:3000. In the absence of serum, the inhibitory concentrations are of the order of 1:1,000,000 or lower. Rats tolerate 40 to 50 milligrams per kilo administered by the intravenous route.

Organic Amines and -onium Compounds

THIS chapter would be replete with references to patents covering organic ammonium compounds, if mere mention in the patent of antibacterial properties residing in any given new compound or class of compounds were used as a criterion of relevance. As emphasized in the preceding report, many if not most of the products belonging in this category are synthesized originally for use as wetting agents and other textile aids; mention of antibacterial potency is made usually for purposes of broader coverage, and without the support of bacteriological data. It is felt that most of such comparatively non-informative patents might be disregarded for the time being, at least until they have been subjected to a proper investigation.

L. P. Kyrides (28) secured a patent for compounds of the group of N-alkylated alkylene polyamines

and their salts with acids. N-tetra decyldiethylenetriamine is an example. A. C. Raymond and R. T. Dillon (29) patented a series of quaternary ammonium compounds of which the following are examples: cholanyltrimethylammonium halides, cholyldimethyllaurylammonium bromide, cholyloctyldimethylammonium bromide, etc.

Quaternary sulfonium compounds are the subject of a German patent granted to W. Neugebauer (30). The compounds such as dodecylmethylsulfonium methyl sulfate, or 2.6-dichlorobenzyldecylmethylsulfonium methyl sulfate are said to be effective against different bacteria, e. g., *Escherichia coli*, *Ebertella typhi*, *Staphylococcus aureus*, *Corynebacterium diphtheriae*, etc.

"Sulfa" Compounds

ALTHOUGH indications are multiplying that the highly effective "sulfa"-drugs do not free the human or animal organism of infective germs by any direct bacteriostatic or bactericidal action, a considerable number of papers deal with just this type of action, mostly in in vitro studies. Only a few of the pertinent papers can be considered in this survey; a complete review far exceed our scope.

H. G. Whitehead (31) determined the inhibitory action for tubercle bacilli of the better known "sulfa"-drugs, by seeding them on suitable media containing their dilutions of 1:100 to 1:100,000. While the 1:100 concentration was inhibitory in all cases, the potency of these compounds in lower concentrations increased in the following order: sulfanilamide, sulfapyridine, sulfathiazole. A similar picture with respect to staphylococci is reported by W. W. Spink and J. Jermsta (32) who gives the following series of "sulfa"-compounds with increasing inhibitory action: sulfanilamide, sulfapyridine, sulfadiazine, sulfathiazole. While p-aminobenzoic acid interferes with the bacteriostatic action of all these compounds, it was observed that the greater the bacteriostatic effect, the weaker the interfering action of p-aminobenzoic acid.

The antibacterial action upon Gram-negative microörganisms of sulfadiazine and sulfathiazole is the subject of a paper by E. Strauss and M. Finland (33); the drugs were found to show this action upon such germs as *Escherichia coli*, *Shigella paradysenteriae* and *Salmonella paratyphi*. E. Neter (34) studied the effect of sulfanilamid on enterococci. The same author (35) also found that sulfanilamide, sulfapyridine and sulfathiazole either inhibit or delay the development of phage resistant staphylococci in broth; in another paper he reports that sulfanilamide and azochloramide together are more effective against Group A hemolytic streptococci and enterococci than either compound alone (36).

As is known, p-aminobenzoic acid prevents, even in low concentrations the action upon streptococci, pneumococci and staphylococci of sulfanilamide, sulfapyridine and sulfathiazole. Chemically related acids, such as p-aminophenylacetic acid, p-aminophenylglycine as well as the isomeric o- and m-aminobenzoic acids are not capable, however, of producing such an impairing effect, according to M. Landy and J. Wyeno (37).

Chlorine Products

W. MANNINGER (38) finds mixtures of sodium hypochlorite and boric acid to be germicidal for staphylococci and streptococci in low concentrations and recommends such combinations for washing wounds and cavities. A paper by C. I. B. Voge (39) deals with the applicability of hypochlorites to medical problems in war times, with particular reference to hypochlorite-perborate combinations, and their use for decontamination of mustard gas, the sterilization of drinking water and treatment of injuries.

G. R. Weber, R. Bender and M. Levine (40) contributed a paper on the effect of ammonia upon the bactericidal potency of chlorine.

According to W. L. Mallmann and W. B. Ardrey (41), the determination of the oxidation reduction potential gives an accurate indication of the germicidal action which may be expected of different concentrations of sodium hypochlorite in the presence or absence of organic matter.

Wetting Agents

L. GERSHENFELD and collaborators considered the antibacterial aspects of wetting agents, and their influence upon the efficacy of antiseptic materials. If a substance, with ability to depress surface tension, also shows an antibacterial potency, then the latter cannot be explained by or attributed to the former alone (42). Antibacterial action is conditioned by a favorable combination of the following three factors: the existence of a surface active group, anionic or cationic, the hydrogen-ion concentration of the environment and the susceptibility of the microörganism. The compounds studied were the anionic "Aerosol OT," "Tergitol" 4 and 4T, and the cationic "Tritons." "Triton K12" showed the greatest efficacy in the alkaline range; the higher the pH, the greater this effect. It was more active against the Gram-negative *Eberthella typhi* than against the Gram-positive *Staphylococcus aureus*. By contrast the anionic depressants "Aerosol OT" and "Tergitols" were more effective against *Staphylococcus aureus* than against *Eberthella typhi*.

When "Aerosol OT," in a nonbactericidal concentration, is combined with different antiseptics, the following combinations show a marked increase in bactericidal efficacy with an increase in the hydrogen-ion concentration: phenol, mercuric chloride, merthiolate (1:1000), hexylresorcinol (1:1000) (43) "Zephiran" (1:1000) and "Zonite" are incompatible with "Aerosol OT." On the other hand, a number of chemicals commonly employed as wetting agents, when added in concentrations of 0.1 to 1 per cent to solutions of 16 phenolic, 10 mercurial and two halogen preparations did not increase their bactericidal or bacteriostatic action (44).

E. J. Ordal, J. L. Wilson and A. F. Barg (45) conclude from their experiments on the addition of wetting agents to buffered solutions of phenolic compounds, at various degrees of alkalinity (from pH 9 to

pH 11) that the effective wetting agents intensify the antibacterial action of the undissociated phenols rather than that of the phenolates.

A patent has been issued to R. Schuler and F. M. Archibald (46) for disinfectant compositions containing sulfonated mineral oil as an emulsifying agent; the complete formula calls for 75 per cent of tar acid oil with 15 to 18 per cent of phenolic compounds, 11 per cent of the sulfonated mineral oil, 4 per cent of plain mineral oil and 10 per cent of isopropyl alcohol.

A. L. Rawlins (47) received a British patent for antiseptic compositions whose antibacterial action is increased by a soluble acid sulfate of an alcohol or its soluble salt. Hexylresorincol is the chief germicidal agent employed.

Antibacterial Substances Obtained from Living Organisms

MENTION was made in the preceding report of the very interesting work of R. J. Dubos who isolated intensely potent germicidal material from certain soil bearing bacteria. Further experiments on the separation and identification of the germicidal principles was done by R. D. Hotchkiss and R. J. Dubos (48). Tyrocidin and tyrothricin were obtained in addition to gramicidin; they were found to be markedly germicidal for both Gram -negative and Gram positive bacteria, in contrast to gramicidin which is highly specific for the Gram positive variety. A clinical study of gramicidin has been contributed by W. E. Herrell and D. Heilman (49).

S. A. Waksman and H. B. Woodruff (50) found that soil actinomyces produced two highly potent antibacterial agents designated respectively as actinomycin A and B. Actinomycin A is a red substance, soluble in ether, alcohol and water. It is bacteriostatic for many Gram positive bacteria in dilutions as low as 1:100,000,000. However, Gram-negative bacteria are inhibited by it only in concentrations of the order of 1:5000 to 1:100,000, and its bactericidal power is weak. On the other hand actinomycin B is only weakly bacteriostatic but actively bactericidal. (It is slighly soluble in alcohol and insoluble in water.)

Experiments of potentially extraordinary importance are in progress in A. Fleming's laboratory (51) who found that a species of *Penicillium* is capable of producing a bactericidal substance stronger than any produced to date. This substance, designated a penicillin is effective when diluted to the astonishing extent of 1:1,000,000. Yet it can be administered by mouth or injected into a vein; and it kills the germ inside the body without harming the body itself. It is eliminated in the urine from which it can be extracted and used again. It is noteworthy that with respect to its apparent safety penicillin differs from gramicidin which is entirely too toxic for internal application. The *British Medical Journal*, known for its conservative attitude has gone so far as to say that penicillin is to other antiseptics what radium is to other metals.

Miscellaneous Antibacterial Agents (a) Inorganic

THE bactericidal action of ozone is the subject of a paper by A. W. Ewell (52), who found that a given concentration of this gas is germicidal to about the same extent at 4 and at 20° C., except that because of a faster rate of deozonification at higher temperatures more ozone is required to maintain a specified concentration.

H. R. Curran, F. R. Evans and A. Leviton (53) studied the bactericidal activity of hydrogen peroxide using crystalline catalase to dissipate its residual proportions. The logarithmic curve for the survival of spores exposed to 1 per cent of peroxide at 50° C. at a pH of 6.9 indicates that the rate of killing follows very nearly that of a monomolecular reaction.

M. L. Snyder and H. C. Lichtenstein (54) found sodium azide to inhibit Gram-negative bacteria in blood agar, in a concentration of 0.01 per cent. The preponderance of Gram-negative over Gram positive bacteria in fecal specimens is practically reversed by this concentration of sodium azide.

Stable disinfectants obtained by the addition of small quantities of suitable metals to acid thiocyanates or their solutions are covered by a French patent issued to G. Schoenberg (55). The preserving effect is achieved by preventing the formation of hydrogen sulfide. The following composition is an example: 25 Gram sodium thiocyanate and 25 Gram of sulfuric acid in 450 Gram of water plus 0.05 Gram of crystalline copper sulfate.

(b) Organic

A large series of substitution derivatives of phenylacetic acid as well as a number of related compounds were tested by C. F. Feasley, B. H. Gwynn, E. F. Degering and P. A. Tetrault (56) for their bacteriostatic properties with respect to *Staphylococcus aureus* and *Escherichia coli*. None of the substituted acids were as effective as the parent compound; their efficacy fell in the following order of substituents: OH, Cl, Br, CH_3, NO_2. In all cases, except in that of the OH derivatives, the p-isomer was superior to the o-isomer.

J. T. King and A. T. Henschel (57) published a paper dealing with the bacteriostatic action of p-nitrobenzoic acid and of its sodium salt.

Using their well known tissue toxicity method, A. J. Salle, T. L. Schechmeister and W. A. McOmie subjected a series of dyes to an evaluation of their fitness for antiseptic use (58). They found that as a group the dyes are poor germicidal agents and inferior to the better non-dye products of their extremely high tissue toxicity.

Some 50 organic sulfur compounds were submitted to bacteriological study by E. L. Everitt and M. X. Sullivan (59). Mercaptobenzothiazole was among the most promising preparations.

Guanyl or biguanyl combinations with high-molecular alkyl radicals are germicidal. They are described in a patent issued to B. Puetzer (60).

A German patent was granted to L. W. Rosenmund (61) for compounds of phenols and phosphorus of the general formula $(ArO)_2PO_2M$ where ArO is a substituted phenol (e. g., thymol, chlorocresol, etc.) and M an alkali metal, ammonium, hydrogen or an organic amine.

A patent for a fungicidal preparation suitable for the treatment of skin infections, was granted to C. Hoffman, G. Dalby and J. R. Schweitzer (62). This preparation is obtained by mixing sodium propionate with an acid, e.g., citric or propionic, to give a pH of 5.3 to 5.7.

L. S. Stuart and W. O. Pohle published a paper on the antibacterial properties of rosin soaps (63). The rosin soaps were found to be possessed of greater antibacterial power than the "fatty acid" soaps in equivalent concentrations. Rosin soaps from long leaf pine and slash pine showed a comparable potency. The paper deals with the antibacterial aspects of the rosin soap problem in an exhaustive fashion.

Some fish liver oils display a definite killing power with respect to vegetative cells and spores of many species of bacteria, according to a paper by F. P. Leusden and R. Derlich (64).

A. H. Baker contributes a discussion of the germicidal aerosols, their function, composition (with phenolic and non-phenolic compounds) methods of "nebulization," etc. (65). (These aerosols, which are finely subdivided mists of sprayed germicidal solutions, are not to be confused with the "surface-active" aerosols refered to elsewhere; in the former case the term aerosol denotes a colloidal dispersion in the gaseous phase, in the latter it is a trade designation of a class of wetting agents).

F. J. O'Brien and W. J. Bonisteel (66) published a paper on fungistatic ointments. A bacteriostatic ointment may or may not be fungistatic, and the existence of a fungicidal or fungistatic efficacy of a given compound in solution is no indication of such an efficacy when in ointment form. As mentioned in the case of bacteriostatic ointments, the character of the base is of great importance. The pharmacopoeial ointments of phenol, yellow mercury oxide, ammoniated mercury, sulfur and iodine have little or no fungistatic value when tested against *Monilia albicans* or *Trichophyton interdigitale*. Thymol and oil of cinnamon make effective fungistatic ointments, particularly in vanishing or cold cream bases.

General and Methodological Papers

IN an investigation devoted to the study of the bactericidal effect upon *Staphylococcus aureus* and *Escherichia coli* of hydrogen ions P. B. Cowles (67) showed that up to a pH of 2.6 the hydrogen ions furnished by hydrochloric acid were effective against Staphylococci. In buffered solutions, at the same pH levels, the hydrochloric and acetic acids give evidence of the same time-concentration relation. In the case of *Escherichia coli*, the bactericidal effect of the fatty acids is due almost entirely to the unbuffered portion. With respect to *Staphylococcus aureus* this holds true of the higher fatty acids, but with the lower ones the hydrogen ion concentration is significant as well. No evidence has been obtained for any antibacterial effect residing in the anions.

As a contribution to the problem of the relation between the bacterial flora of the skin and its reaction, F. C. Whitcomb and L. Arnold (68) carried out a determination of viable bacteria on the skin during an "alkaline" phase, as induced by the metrazole treatment. Since the number of bacteria was found to be markedly greater under these conditions, there is some ground for the hypothesis that the autogenous normal skin acidity tends to hold down the number of viable bacteria.

The effect of the pH of the medium upon the fungistatic properties of a number of substances is the subject of a paper by C. Hoffman, T. R. Schweitzer and G. Dalby (69). While the pH of the medium has no appreciable effect upon the fungistatic properties of mercuric chloride, formaldehyde, phenol, copper sulfate or iodine, it is necessary to adjust the pH in the case of sodium sulfite or sodium thiosulfate in such a manner as to bring about a decomposition of the molecule in order to produce the fungistatic effect. Boric acid is ineffective at pH 4.5 to 6.0, but at pH 2 and pH 7 to 8 it shows fungistatic properties. Variations in pH affect also the fungistatic action of benzoic, salicylic and acetyl salicylic acids, also of resorcinol, catechol and hydroquinone. Meta- and parahydroxybenzoic acids are not fungistatic.

C. M. Brewer (70) reported the results of a collaborative study on the determination of the phenol coefficients of U.S.P. cresol, pine oil and coal tar disinfectants. A close agreement was obtained pointing to the dependability of the test.

A modification of the agar-cup test method, providing for an increase of the surface of contact between disinfectant and medium has been recommended by A. E. Meyer (71).

M. E. Greig and J. C. Hoogerheide (72) working on the evaluation of germicides by the manometric method, found that the oxygen intake of multiplying bacteria is directly proportional to the bacterial content. Germicides in bacteriostatic concentrations appear to have no effect on the metabolic rate.

An evaluation of antiseptics for their fitness in connection with brain wounds has been carried out by D. S. Russell and M. A. Falconer (73), on the basis of the histological reaction of cerebral tissue to their application.

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(*Turn to Page* 127)

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[*Extract from report by the Ohio State University, Research Foundation November, 1941*]

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INSECTICIDE ACT ENFORCEMENT

The new regulations for enforcement of The Insecticide Act of 1910 are interpreted

*By C. C. McDonnell**
U. S. Department of Agriculture

THE Insecticide Act of 1910 provides that the Secretaries of Agriculture, Treasury, Commerce and Labor, (the latter now Department of Commerce), "shall make uniform rules and regulations for carrying out the provisions of this act." In conformity with this provision of the law, regulations for its enforcement were adopted Dec. 9, 1910. Several changes have been made in the regulations as first published, but the new regulations issued Oct. 1, 1941, represent the first time they have been revised in their entirety. (See *Soap and Sanitary Chemicals*, October, 1941, P. 111-113 for complete text of the new regulations. Ed. Note.) With years of experience in the enforcement of any regulatory law and the accumulation of court decisions and interpretations of the law, it is natural to expect that the point of view of enforcement will change to some extent. However, insofar as this law is concerned there has been no fundamental change in its enforcement that would cause a deviation from the purpose for which it was enacted.

We cannot, of course, take anything away from the law nor add anything to it. The regulations are designed primarily to acquaint the industry with the methods to be followed in its enforcement and point out the Department's interpretation of the law's provisions, which is based on the wording of the law itself and the statements made by members of the Congress indicating what it was designed to accomplish when the bill was before it.

In writing the regulations we have attempted to cover the subject fully, but concisely, and to word them so that they will be clear and readily understood. It is impossible, however, to foresee all problems that may arise and I am glad to have the opportunity to explain more fully some of the points brought up in the following questions.

With reference to the "DEFINITIONS" four questions have been submitted.

Reg. 161.2 (*d*)

Q. "The definition of 'package' includes not only the individual container but apparently the shipping carton as well. Does this mean that the information required to be shown on the labels of individual cans must also be shown on the cartons or shipping containers holding a dozen or more cans and, if so, does this mean that the entire label would have to be shown on the shipping cartons, or only the specific information required by your recent Rules, Regulations and Orders?"

Q. "Is it necessary to place the declaration of ingredients on the package carton of a disinfectant if each individual bottle within the carton is correctly labeled and the dealer or consumer removes each bottle from the carton for resale or use?"

Answer—Reg. 161.12 (b) provides that the ingredient statement, where required, shall be placed on the label of each individual package or container, and also on the carton or outer container if there is one, which is displayed under customary conditions of purchase. This includes not only packages of products that go to the consumer direct or through dealers, but also packages, as defined under Reg. 161.2 (d), that are shipped to other manufacturers or processors. In other words, in the case of products enclosed in a carton or package, either singly or more than one to a carton or package, which may be displayed or sold either singly or in the original carton or package, all matter required by the law to be placed on the label should appear on the carton or outer container of whatever form, as well as on each individual container within the carton or package. It is not necessary that the case or carton in which the product is shipped, that serves merely as a shipping container and from which the product is removed before it is offered for sale, shall bear any label or statement of ingredients.

Reg. 161.2 (*f*)

Q. "We understand that advertising matter, such as booklets, literature, etc., that would be shipped interstate to a customer, would be considered part of the label although it is not actually shipped with the merchandise nor distributed in the store in the immediate proximity of the product."

A. As desirable as such a provision would be, the law does not authorize us to go that far. In the administration of the law such booklets and literature are not considered as a part of the label unless they actually accompany the shipment of the

*Before Natl. Assn. Insecticide & Disinfectant Mfrs., New York, December 2, 1941.

article in interstate commerce, or are referred to on the label of the article, or in other literature accompanying the shipment.

REG. 161.2 (g) (h)

Q. Does the Insecticide Division exercise jurisdiction over products sold for the control of: (1) Root-knot Nematodes; (2) Snails; (3) Slugs; (4) Sow Bugs; (5) Human Lice; (6) Roundworms or Tapeworms of Poultry and Livestock; (7) Botflies of Horses; (8) Screwworms of Sheep; (9) Wood-destroying Fungi; (10) Athlete's Foot Organisms; (11) Sheep-Fouling Organisms; (12) Rat Poisons; (13) Animal Repellents?

A. (1), (2), (6), (12), (13): No, if sold exclusively for these purposes.

(3): The law applies to products sold for the control of the larvae of certain insects sometimes referred to as slugs,—for example, the pear slug, the rose slug, and others,—but does not include products for use against the shell-less snails which are frequently seen about gardens and damp places.

(11): Not to the usual type of such organisms known as barnacles.

The next question relates to "HEARINGS."

Reg. 161.7.

Q. "We should like to know just how the Commissioner would arrive at an opinion as to whether to grant a firm a hearing. It says that a hearing will be granted only when it is believed a useful purpose would be served. We feel that this is not too specific. It further states that no hearing will be granted prior to seizure action pursuant to Section 10 of the Act. Will they actually seize the merchandise, or stop the sale of the merchandise before a hearing has been held?"

A. (By the reference to the "Commissioner" the questioner apparently is of the impression that this law is still being administered by the Food and Drug Administration.)

This question involves two different procedures, criminal action and seizure action. Seizure action, as authorized by Section 10 of the law, is designed to protect the consumer from the purchase of insecticides or fungicides that are grossly misbranded or adulterated; products that may cause injury to the plants on which they are to be used; or products that are ineffective for the purpose for which they are recommended, whether this be due to faulty manufacture or deterioration after manufacture, or whatever the cause might be. Action here must be prompt and the only way it can be accomplished is through proceeding against the goods by seizure, thus preventing their further distribution. This is an action against the goods by libel and is not a criminal action against the shipper. There is no provision in the law calling for a hearing before such action. In fact its purpose would be defeated by such procedure, due to the delay involved in granting a hearing.

With reference to criminal action the law provides that if examination shows a product to be misbranded or adulterated, the Secretary of Agriculture "shall cause notice thereof to be given to the party from whom the sample was obtained." The United States Supreme Court has ruled, in a case arising under the Food and Drugs Act of 1906, (which contains the same wording with reference to hearings), that this does not mean that a hearing shall be given to all persons charged with a violation of the Act,—(United States v. Morgan, U. S. 222, 274). However, Reg. 161.7 provides that a notice in writing shall be sent to the party making the shipment, or other interested person, and that an oral hearing may be given on specific request for such a hearing.

Some manufacturers, especially small one-man concerns that have had no previous contacts with the Government in connection with this Act, get panicky when they receive a citation from the Government and immediately think they have to call on their congressman or rush to Washington. Frequently in such cases the violation is of such a character that there is no disposition on the part of the Government to take the case to court if a willingness to correct the faults is shown, and further correspondence may show that to come to Washington would be an unnecessary waste of time and money. In some cases the manufacturer may not clearly understand the charges and after they are explained to him more fully by letter he realizes that he can make reply by letter equally as well as by a personal interview. Then there are cases in which the violation is of such a character that a reference to the court is clearly indicated regardless of what the reply might be. In such instances we write him frankly to this effect and let him know that it would be wasting his time and money to appear for a personal hearing. We don't wish to imply that a request for an oral hearing is never granted. Cases are frequent where manufacturers are given oral hearings, and we do not discourage such a hearing where it appears that it might be worthwhile.

Reg. 161.12 *(a) (b)*

Q. "This requires that all words, statements and other information required by the Act to appear on the label shall be in the English language. In one instance we use the English language, then we give the identical statements in Italian because many of the users of this product can not read English and are Italians. A circular has a certain portion appearing in English, then in Spanish, then in what appears to be Polish, in Yiddish, in German and in Portuguese. Since booklets are going to be considered a part of the label, we think that this point might be questioned wherever this foreign printing appears because of the wide use of this circular."

A. The law requires very little on the label,—merely a statement of the total amount of arsenic present and the amount in water soluble forms (expressed as metallic arsenic) in the case of products containing arsenic, and in the case of products that "consist partially or completely of an inert substance or substances which do not prevent, destroy, repel or mitigate insects or fungi," a plain and correct statement of the name and percentage amounts of each and every

such inert ingredient contained in the product, or a plain and correct statement giving the name and percentage amounts of each and every ingredient having insecticidal or fungicidal properties and the total percentage of inert ingredients present.

It is reasonable to suppose that Congress had in mind, when inserting this provision, that this statement should be in language readily understandable by the mass of the American people, which is the English language. The provision that the ingredients shall be "plainly and correctly" stated is significant. The word "correctly," of course, means just that. The word "plainly" may, to a certain extent, be a matter of opinion. Here again, however, we are justified in assuming it was the intention that the statement be so placed that it will be readily noted by the buyer when he makes his purchase, and not in inconspicuous type or position where he would have to hunt for it, or in a form that is not clear and might be misleading.

There is no provision in the law requiring that directions for use of the product shall be given on its label, although it would be desirable had it contained such a provision. It was no doubt felt by the framers of the law that directions would be given as a matter of course, in order to acquaint the buyer with what the product was for, and how to use it, if for no other reason than to enhance its sale.

With reference to the use of language other than English, any statement, in addition to those required regarding the ingredients, may be used on the label in any language the manufacturer chooses to use provided it is true and not made in a way that the meaning is ambiguous and may be misleading. Careful attention should be paid to that word, "misleading." As has been stated by the courts, "Deception may result from the use of statements not technically false or which may be literally true * * * It is not difficult to choose statements, designs, and devices which will not deceive."

Another question on 161.12 *(b)*

Q. "Although there is no Federal requirement that the ingredient in our insecticide be shown on the label, we have for several years shown this information on our packages. However as our direction label is quite crowded we include the ingredient information on the side of our can and run the lines vertically instead of horizontally. The new ruling says that the ingredient statement, when required, must not be materially less conspicuous than any other word or statement on the label. Would we be apt to be in violation of the new regulations because our ingredients contents are shown as indicated above?"

N.A.I.D.M. CONVENTION PAPERS

Additional reports from the 28th annual meeting of the National Association of Insecticide and Disinfectant Manufacturers, held in New York, December 1 and 2, will be published in our February issue. These include "What a cow man expects of a cow spray," "What is happening on floor waxes" and a condensed version of the report by W. G. Walter and G. J. Hucker of their work on disinfectants.

A. While this is a new regulation it is the procedure we have been following for years. It is being issued in the form of a regulation so that manufacturers may be fully informed of the requirements. Answering the specific question raised, any statement regarding the ingredients contained in a preparation which, under the terms of the law, does not require an ingredient statement, is gratuitous information and as long as it is a true statement, and not misleading, there are no restrictions as to where or how it may be placed.

Reg. 161.14

Q. "We are not exactly sure whether our signature conforms to the letter of this requirement. We show the following signature on all of our specialty packages: (name fictitious)

Oil Specialties Division

Star Oil Corp.—Star Refining Co.

Star Building, Empire City, Mo.

Empire City is the home office of both the Star Oil Corp. and the Star Refining Co. although most of our specialty products are manufactured and packed at Electra, Texas, while some are manufactured and packed at plants in other States."

A. As stated in the regulation, it is not required that the name and address of the manufacturer be given on the label, but if given it must be correct. In case a manufacturer has more than one branch, it is sufficient to give the address of the home office of the firm.

Reg. 161.12 *(d)*

Q. "Any implication that the product is recommended or endorsed by any agency of the Federal Government is considered misleading. We have, at times, because we thought it would be good information, quoted from a state Experiment Station bulletin showing this matter in quotation, with the reference. This was in no way construed to make it appear that it was endorsed by any agency."

A. There is no objection to quoting from a Government bulletin provided a sufficient amount of the text is given so that the quotation is not misleading. It would evidently be improper to make any statement, either directly or by implication, that the Federal Government or an agency thereof endorsed any proprietary preparation.

Reg. 161.15

Q. I buy my insecticide in bulk from a manufacturer, from whom I hold a guarantee, and repack, putting on my labels. Am I protected under this guarantee?"

A. You are responsible under the law for a product packed and sold by you under your own label, which then becomes your own product, and the responsibility cannot be placed on the supplier of the material.

(Same Regulation.)

Q. "I manufacture an insecticide for various dealers, pack it, apply labels furnished by the dealer, and ship it out on their orders. Am I

responsible under the law for all of the claims on the labels furnished me by the dealers?"

A. The answer is "Yes."

Reg. 161.15

Q. "The recently published regulations affecting the enforcement of the Federal Insecticide Act of 1910, provide that 'the manufacturer may guarantee to subsequent purchasers that the products concerned are not adulterated or misbranded within the meaning of the Act.'

"The Act provides that insecticides or fungicides will be considered to be misbranded if 'it is intended for use on vegetation and shall contain any substance or substances which although preventing, destroying, repelling or mitigating insects or fungi, shall be injurious to such vegetation when used.'

"It is understood by manufacturers, distributors and consumers alike that even insecticides which are properly formulated and manufactured are capable, if used improperly or if used under unusual conditions which are not necessarily recognizable, of causing injury to the plant or vegetation. It is questionable whether it is even possible to manufacture an insecticide or fungicide which will not, under certain conditions, cause injury to vegetation. It is likewise well known that pure water sprayed on plants under certain conditions will cause injury to those plants.

"We understand that it is not the intention of the Food and Drug Administration to prosecute manufacturers in cases where the spray material concerned has been properly formulated and manufactured, even though injury may be caused under conditions such as those indicated above. However, it appears to us that, if the above-quoted language is interpreted literally, strict compliance with the law is impossible, in view of the circumstances just outlined, and that a manufacturer, in guaranteeing to a purchaser that an insecticide or fungicide is not misbranded or adulterated within the meaning of the Act, would be certifying that he is accomplishing the impossible.

"We feel, therefore, that the wording of the law does not express the intent of the legislators and is obviously unfair to manufacturers and dealers in insecticides and fungicides and, further, that the regulations mentioned serve only to aggravate an already intolerable situation. We feel that, in fairness to manufacturers and dealers in insecticides and fungicides, the proper authorities should clarify this matter."

A. The statement quoted in the question comes under the adulteration section of the Act and not the misbranding section. However, the same answer would apply in either case.

In enforcing this provision of the law it is assumed that you can not go beyond the claims made on the label, or, if no directions are given on the label, (which is frequently the case in such standardized products as lead and calcium arsenates), go beyond the uses as recommended by authorities and understood by growers generally. If the user of a product applies it in any way other than the manufacturer directs or than that recognized as standard practice, the manufacturer can not be held responsible.

The last and only question relating to the regulations with reference to "IMPORTS":

Regs. 161.17, 161.18

Q. "May these regulations be construed to mean than an importer of, say, pyrethrum flowers and derris preparations, would be required to notify the Agricultural Marketing Service of such a purchase, or is that entirely up to the collector to notify that department?"

A. There is no obligation on the part of the importer or his agent to notify the Agricultural Marketing Service of import shipments he is about to receive. This duty rests on the customs service. It has been the practice of some manufacturers to notify our laboratory at the port of entry where a laboratory is located of incoming shipments with the idea that this would expedite the release of the goods. Under our present method of procedure, however, nothing is gained by so doing.

The purpose of the Insecticide Act is to keep misbranded or adulterated insecticides and fungicides out of the channels of interstate commerce, to promote honest labeling and fair dealing, and thus enable the purchaser to obtain what he calls for. Legitimate industry, as well as the consuming public, has a right to expect protection and enforcement officials owe a duty to both groups. This is the basis on which those officials, to whom the administration of this act is delegated, endeavor to function.

———•———

Pyrethrum, a commercial aliphatic thiocyanate and ethylene glycol ether of pinene were found to be compatible when combined in a refined petroleum distillate of approximately 30 seconds viscosity. The efficiency of sprays for the housefly containing 1-3 per cent of pyrethrum extract was increased by the addition of ethylene glycol ether of pinene, a five per cent addition being more effective than a three per cent addition. The pyrethrum extract was a 1:20 concentrate containing two grams total pyrethrins per 100 c.c. Increased toxicity resulted from activation of the pyrethrins by the pinene ether. R. L. Pierpont. *J. Econ. Entomol.* **34,** 195-7 (1941).

———•———

Rotenone exhibits a definite depression of melting point in soft glass. Pure rotenone melted at 163-4° C. in Pyrex glass, at 159.5-160.5° in ordinary soft glass, and at 155-156° in Corning electrode glass No. 015, which is more alkaline. This effect is important in the analysis of derris and cube roots for their rotenone content since many workers use the melting point as a qualitative indication of the purity of the rotenone obtained. Melting points in soft glass are not only lower but less sharp than in Pyrex and thus give every indication of material of lower purity. Howard A. Jones. *Ind. Eng. Chem., Anal. Ed.* **13,** 819 (1941).

The Consumer Angle—

A Buyer's View of Insecticides, Disinfectants, Waxes, Cleaners, Moth Products, etc., with a Resume of Common Complaints and Questions as to Most Effective Use of These Products

*By Ephraim Freedman**

Director, Bureau of Standards, R. H. Macy

THE yearly damage caused by moths has been variously estimated at from 200 million to 500 million dollars annually. Yet, many consumers are still uninformed as to the most effective means for moth control. Lack of knowledge of this important subject is not, however, confined to consumers. Recently, a formula containing less than 15 per cent of camphor which, incidentally was the only active ingredient, was suggested for "moth tablets." Since camphor itself must be used in relatively large quantities—i. e., from one-half to one pound to each five cubic feet of confined space, I wanted to know how many of these tablets a moth had to take, and how often—but the information was missing.

Then, there is the product that depends upon the superior intelligence of the moth or perhaps its nesting instinct—for the distributors claim that moths will seek it out—wherever it may be—to deposit their eggs—and the arsenic or the fluoride will do the rest.

Of course, these two examples are exceptions. Most moth products have a legitimate excuse for existing. They save consumers untold millions. But much more can be saved if we disseminate more information concerning the habits of moths, the adaptability of various moth products to articles, the relative permanence of the products, how they should be used to obtain best results and what precautionary measures need be exercised.

From the consumer angle it is smart to know when the supply of para or naphthalene or camphor, or oil of cedar should be renewed and when a cedar chest has lost its moth killing properties. A statement placed on containers of camphor cautioning users not to mix it with para, nor to put it in pyroxylin coated bags would be helpful because camphor has an unhealthy affinity for para and pyroxylin, and causes them to melt. Likewise, camphor frequently causes dyed furs to redden—a source of complaint.

And, speaking of complaints by consumers, or rejections of articles by our Bureau, here are a few picked at random that may supply food for thought.

A moth compound that attacked the finish on the container causing it to become tacky and to stain contacting garments.

A para product which when hung in a closet holding a mah jong set, softened the lacquered surfaces of the mah jong racks.

A moth compound containing benzol. Benzol is an excellent solvent but exceedingly injurious to human beings, particularly the ladies.

Tar bags exuding sufficient brown substance to stain the garments in the bags.

A spray, the vapor of which caused the user to become ill.

An electric device for vaporizing moth products, which constituted a fire-hazard because it overheated.

A wood-shavings product, the only active ingredient of which was approximately 2½ per cent cedar oil.

Among the questions asked by consumers are these—

> How should upholstered furniture be treated to guard against moths?
>
> What special care should be given furniture covered by slip covers to protect it against moths?
>
> Is it advisable to put additional moth preventives in a garment bag, chest, or box if the container has already been treated to resist moths?
>
> Will covering furniture with slip covers encourage the growth of moths?

The question of terminology is very important. We have yet to find a moth product that renders an article permanently proof against moth ravage. Even the best of treatments fail in all instances to protect completely against moth ravage. Also, when moth-treated articles become soiled, the danger of moth attack is increased. Because of these facts it remains difficult to understand why the term "moth proof" is continued in use.

Before leaving this subject, I might state that a process for making wool moth-resistant without the addition of mothproofing agents has re-

*Before Natl. Assn. Insecticide & Disinfectant Mfrs., New York, December 1, 1941.

cently been developed, and, I am told, holds considerable promise.

Disinfectants

The use of disinfectants has undoubtedly brought about a considerable decrease in the spread of contagious and infectious diseases. While proper use of many disinfectants may not be accompanied by the pleasant aromas found in the so-called antiseptics, they are without doubt, much more efficient. However, here again we find considerable confusion in the minds of consumers. Disinfectants are germicides—and many people do not know the difference between germicides and insecticides.

A fortune is awaiting the man who can produce a product that is both germicidal and insecticidal, and which will permeate deeply into layers of feathers, hair, cotton, and wool, when contained in articles of furniture and bedding, without injuring the contents or the article itself. If such a product will kill germs and bugs when injected at atmospheric pressures his fortune would be considerably enhanced.

While on the subject of disinfectants we should not overlook deodorants — particularly those that are supposed to remove bad odors from the air. We have had occasion to try out innumerable products which have been claimed to destroy cooking odors, but sauerkraut odor lingers on. One such test stands out very vividly. It was conducted in our laboratories on the 15th floor of our main buildings. The deodorant was used exactly as specified, but it wasn't long thereafter when word came to us that the street floor entrance to the executive elevators reeked of sauerkraut. While some of these products may *re*odorize or mask other odors, they hardly deodorize.

For a number of years we have studied the effects of ozone on odors. Frankly, we are yet to be convinced that ozone is an efficient deodorant. I believe it rather numbs the sense of smell, while medical authority reports irritating effects of ozone on mucous membranes.

Perhaps the most popular present day general household and commercial disinfectants are those containing pine oil, although the older highly efficient cresylated and carbolated compounds still retain considerable popularity. The demand for these will probably increase as the supply of formaldehyde decreases.

Chlorinated products have long been known for their effective disinfecting and deodorizing and bleaching properties. Not all consumers, however, know of the corrosive action of chlorine on metal nor of its deteriorating action when allowed to remain in contact with textiles for long periods of time. Now, that chlorine is on the priority list, some other inexpensive bleach and disinfectant is badly needed, perhaps one with a less damaging effect on metals and fabrics.

While formaldehyde gas is capable of destroying germs in the air, ultraviolet rays have proven highly efficient and evidently, in the quantities used, neither irritating nor harmful to human beings.

Insecticides

An interesting case deals with fluorides. A customer returned some chinaware, which had been stored for several years in a cellar near a coal furnace. The glaze and decorations were partly destroyed.

Examination disclosed the presence of fluorides. Sprinkling sodium fluoride on some chinaware and then subjecting it to sulfurous fumes, duplicated the destructive action. It was subsequently ascertained that fluoride roach powder had been sprinkled in with the chinaware prior to storage. The fumes from the coal furnace did the rest.

The control of vermin in the home is not always an easy matter. While we are only too glad to sell insecticides, when the infestation appears widespread we recommend the services of professional exterminators.

Insecticides of various types are occasionally submitted for our comments. Also, many inquiries are received from consumers concerning these products. Here are a few:

Can mosquito, fly, and insect sprays be used with safety in kitchens?
What will destroy red ants?
How are termites destroyed?
How are silverfish destroyed?
How may book lice be destroyed?
Will sulfur candles injure clothing, drapes, or rugs?
What is the best way to destroy tiny flies?
How can one get rid of wasps?

Floor Waxes

We think very highly of no-rubbing floor waxes which have certainly contributed great savings in time and labor. The development of water-resistant qualities in these waxes likewise merits applause. In our laboratory we make use of a phonograph in determining wear-resistance of waxes. A glass plate is substituted for the record and a circular eraser for the needle—and the test goes 'round and 'round.

Among consumer questions regarding waxes are:

Is no-rubbing wax affected by water?
Which type of floor wax lasts longest on a floor?
Which type of wax is least slippery?
How can the rubbing type of floor wax be removed?
Do you need separate kinds of wax for linoleum and wood?
Can you use floor wax on furniture?

While there are relatively few consumer complaints regarding floor waxes, the majority concern the no-rubbing variety.

Among the complaints are:

Objectionable odor,
leaves white stains when sprinkled with water,
spots varnished floors,
discolors linoleum,
imparts greyish cast to floor, and can't be removed—although soap and water, and turpentine were used.

Furniture Polishes

Regarding furniture polishes, typical questions asked are:

What are the advantages and disadvantages of furniture wax? Of furniture polish? Of furniture oil?
Should furniture polish be used over furniture wax and vice versa?

What type of wax is best to use if the furniture is scratched?

Are tinted waxes as good as the regular waxes?

Following a complaint that lemon oil caused furniture to turn gray, an investigation disclosed that lemon oil tends to dull and streak waxed furniture. This would seem to indicate the need for additional information on lemon oil labels. The application of a cream polish designed to put a high lustre on old, dried out finishes was found to impair rather than improve the gloss.

Metal Polishes

Today the expenditure of considerable elbow grease is still necessary to remove corrosion products from metal, but much progress has been made in this field. The following questions disclose the need for more consumer information on the subject of metal polishes and cleaners:

How should brass candlesticks be cleaned?

How can they be treated to keep them from tarnishing quickly?

How should blackened grease be removed from the grids of a waffle iron?

We have had considerable experience with silver polishes and were one of the first to ban the sale of the deadly cyanide. Yet, to this day some people are still selling cyanide silver polishes for home use.

Glass Cleaners

While the older type of glass cleaners usually were very weak solutions of ammonia, some of the newer products contain other solvents and wetting agents which are more effective.

Spotting Fluids and Cleaners

That there is considerable need for education regarding spot removal and for good spotting kits is borne out by the following consumer questions:

How should grass stains be removed?

How can iced chocolate or iced cocoa stains be removed?

How should a stain caused by shoe polish be removed?

How should candles be cleaned if they become soiled?

How can candle grease be removed from a mohair couch?

How can paint stains be removed from wool? From a white broadcloth shirt?

Here's a challenging one for you. How should one attempt to remove the brown discolorations that appear in the cracks on a china plate?

What will remove iodine stains? rust stains? tar stains?

Among consumer complaints regarding spot removers and cleaners are:

Of a rug cleaner—
That it burns the hands, leaves rings, fades rugs.

Of upholstery and fabric cleaners—

That they fade and stain fabrics and leave rings.

Of leather cleaners—
That they fade colored leathers.

Of silver polishes—
That they scratch silver.

Laundry Bleach

Rarely, if ever, are complaints directed at laundry bleach, but there are frequent complaints of deterioration of sheets, pillow cases, shirts and other textile articles. These complaints often arise as a result of the injudicious use of bleach.

Cleaners

Among the products that can be improved upon in the cleaning field are drain cleaners and wall paper cleaners. Drain cleaners that will not injure bowls or drains, and wallpaper cleaners that will remove soil without injury to the paper would both be welcome developments. Of course, not all drains are of the best quality, nor is all wallpaper able to take what it needs to withstand a cleaning job—but the problems are still with us. Perhaps more detailed directions for use, or in the case of the wallpaper cleaner — instructions to try it out on an inconspicuous section will help solve the complaint problem.

Soap Specialties

Obviously, a number of these products are produced like many other products—in a form created particularly for convenience in using. Intelligent consumers frequently prefer to purchase the more concentrated products because they offer more in return for the spending dollar. It would help consumers if a measure of quantity of active detergent and a measure of detergent quality were included on labels.

Most consumers still are of the opinion that lathering power is an index of detergency. Also, many believe that just because a soap is made of olive oil it is a mild and harmless soap.

OBVIOUSLY, many of the consumer complaints cited were not justified. Likewise, the questions asked by consumers regarding products in the soap and sanitary products field indicate at times a lack of sufficient knowledge of adaptability, performance and method of use. From this mass of data, however, two things stand out.

One, is the need for yardsticks with which to evaluate the efficiency of these products, and

Two, the need for more widespread dissemination among consumers of information as to the adaptability and use of the different types of products.

At our own laboratories we are constantly trying to obtain the answers to questions relating to these and other products and to keep consumers informed via our Consumer Quiz Broadcast, so that they can buy more intelligently and consume more wisely. Also, at the beginning of each Spring season we give our salespeople a refresher course on the subject of moth products.

Just as the average automobile owner complains only when something happens to his car, dissatisfied consumers of other products let out a yell—and right or wrong—if they are not placated, a customer for the product may be lost. It has been argued that if, however, consumers know more about commodities, in general, there would be less cause for complaint. While this is a debatable subject, the fact remains that regardless of the measure of consumer knowledge, the advantage of possessing this knowledge is negated by the absence of pertinent information accompanying the product.

(*Turn to Page* 115)

GIVE 'EM BOTH BARRELS!

BRIGHT BEAUTY for brilliant luster . . . self-polishing SPARX for water resistance! Here's a "double-barrelled" combination that means sure-fire sales for distributors.

If you're out to bag volume sales, don't let customers get away for lack of "ammunition." Practically identical in quality, yet unlike in performance, these two waxes are aimed directly at the two popular consumer specifications in demand today. If one doesn't get 'em, the other one's bound to!

For example, BRIGHT BEAUTY can be buffed to a brilliance of luster which never could be fully equalled by a self-polishing wax like SPARX. On the other hand, SPARX gives far greater resistance to water . . . a feature that becomes essentially as important as luster when wax is submitted to frequent damp-moppings, wet traffic, etc.

BRIGHT BEAUTY'S slightly softer body gives it the advantage of easier blending of traffic marks. Whereas SPARX, being on the hard side, does not scuff as easily or deeply and offers extra resistance to heavy traffic.

Regardless, however, of whether the customer preference happens to be for a self-polishing wax like SPARX or a wax like BRIGHT BEAUTY, *both* contribute the same all-around qualities of ease of application, smoothness and freedom from streaks . . . plus reasonable safety in walking under normal conditions. In brilliance of luster, depth of color and resistance to water, BRIGHT BEAUTY and SPARX alike can "outshoot" competitive materials on the market today.

Sold through distributors only.* never direct to the consuming trade. It is our unalterable policy *never* to compete with our jobbers. Packed in attractive containers under your own label. Competitively priced to allow you your usual mark-up. Write for FREE experimental samples.

*Except for experimental accounts in Chicago, essential to research.

Al Candy, Jr.

CANDY & CO., INC. WAX SPECIALISTS FOR OVER 40 YEARS **2515 W. 35TH ST. CHICAGO**

Manufacturers of Prepared Paste Wax, Spirit Liquid Prepared Waxes, Powdered Dance Floor Wax, Concentrated Cream Furniture Polish, Paste Cleaners

DOG REPELLENTS—

REVIEWING THE MARKET AND COMMENTING ON SOME OF THE SHORTCOMINGS OF PRODUCTS NOW BEING SOLD

DOG repellents constitute a class of products frequently overlooked or ignored by the manufacturer of sanitary supplies. Yet such items could be added profitably to many a line. Primarily, this is because price competition is less sharp on these specialty products and because many of the dog repellents already on the market are so inferior as to offer little competition on a quality basis to a really effective product. Although the market for dog repellents is small in comparison with that for the larger selling items in the sanitary supplies line, a fair sized market does exist. It could be expanded considerably.

Practically all dog repellents depend for their action on their odors, which are peculiarly repulsive to the unusually sensitive membranes of a dog's nose, although not necessarily obnoxious to humans. They are varied in form and composition. Of the dozen or so products on the market, most are liquids intended for use in hand sprayers. Several, however, are solids or powders. But whatever their form, the basic idea is the same: to keep dogs away from places where they are not wanted. The dog has been acclaimed repeatedly in story and verse as "man's best friend," but certain of his habits are not always appreciated (putting it mildly) by apartment house owners, pedestrians, suburban gardners or horticulturists. Hence—the need for dog repellents.

These products may be divided into two general groups: those which are intended for use out of doors, and those intended for indoor use to protect chairs and other furniture from dogs and cats. The first group is far more important from a volume standpoint. There seems to be a real need, however, for a good reliable product for indoor use.

It is a simple matter to specify just what the properties of a dog repellent for outdoor use should be. The ideal product should possess

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Manufacturers

40% COCOANUT OIL LIQUID SOAP:

- ★ 40% actual soap content
- ★ Crystal Clear
- ★ No free potash
- ★ Colored & scented to suit
- ★ Attractively packaged

VEGETABLE OIL JELLY SOAPS:

35%, 40%, 45%,
50%—U.S.P.,
65%, and 80%

Mid-west jobbers have for many years relied on "HAAG CHEMISTS" to ship products which meet specifications. Many of them have visited our plant, and know that we have laboratory facilities capable of careful control.

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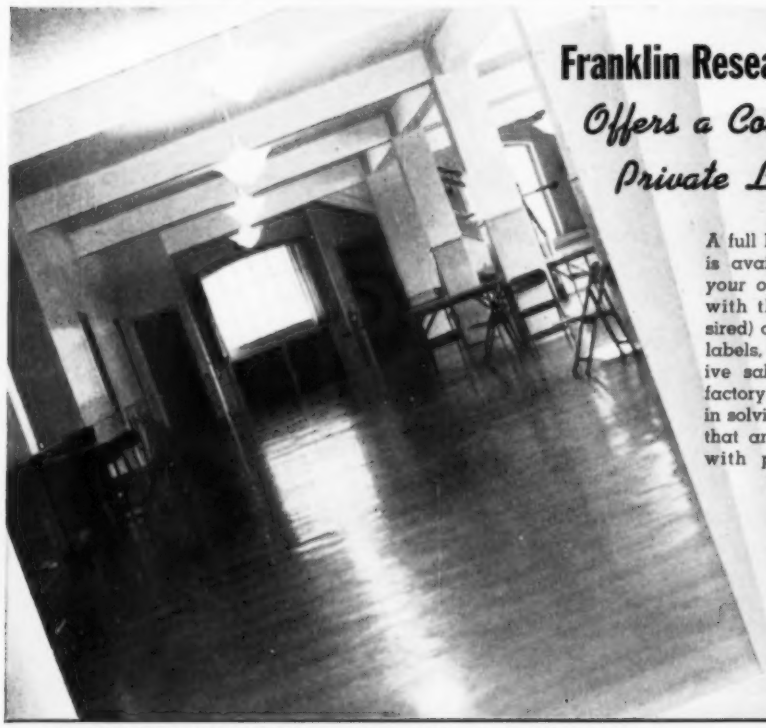

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A full line of *quality finishes* is available to you—*under your own name.* We'll help with the designing (if desired) and putting on of your labels, help in creating effective sales literature, provide factory experts to cooperate in solving any floor problems that arise—and supply you with products that have proved their superiority in countless tests and thru years of satisfactory use.

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an odor which cannot be tolerated by the extremely sensitive olfactory apparatus of a dog, but should not be disagreeable to the less acute noses of humans. The active ingredient should be a stable material, possessing a lasting odor and an enduring effect, so that it is not necessary to replace it too frequently no matter what the weather conditions may be—hot or cold, wet or dry.

This means that the product must not be water-soluble. Neither must it be excessively volatile. It should not be dangerous to use or poisonous. After all, the main idea is to make the dog go away, not injure him. It should not be injurious to trees or shrubs, nor should it stain marble, stone or other building materials when used in the necessary concentrations. Further, its repellent action should be discernible to the dog at a reasonable distance from where it is used.

Unfortunately, very few of the products sold today as dog repellents measure up to the standards of the theoretically ideal product. In fact, many of the products on the market have been described as almost useless by those who have tried them.

"None of them are much good," is a characteristic comment of people who have tried two or three without much success. This does not mean that all the products on the market are ineffectual, but it does show that the value of many is questionable. It also shows that dissatisfaction among customers has resulted in a negative reaction to all repellent materials. Apparently, many makers of dog repellents have not spent much time in developing their products, regarding them perhaps as not worth the effort of research. They continue to exist only because of the lack of competition, the lack of knowledge on the subject, and because, when a person needs a product of this type, he will try anything in desperation.

One of the oldest and perhaps the most widely known material which has been used as a dog repellent is nicotine sulfate, as a search through almost any handbook of formulas will indicate. One handbook mentions the use of ¼ ounce of nicotine sulfate to a gallon of water, while another recommends 1½ teaspoon of "Black Leaf 40" to a gallon of water. The nicotine sulfate products are designed to be sprayed around the bases of trees, shrubs, posts, walls, building corners, and other places commonly visited by dogs. The value of nicotine sulfate as a dog repellent, however, has often been questioned. In the first place, it is water-soluble and thus a new application is necessary after every rain; in the second place, it is not particularly effective at keeping dogs away. Another complaint sometimes brought against it is its poisonous nature. Actually this is only an academic criticism since it is not dangerous to use in the above concentrations. None of the usual repellent materials is harmful to dogs as a matter of fact, because they are never highly concentrated and a dog stays at a safe distance.

Another type of product contains the following ingredients: naphthalene flakes—1 oz.; paraffin wax—¼ oz.; gasoline—½ pint; and rosin—¼ oz. Apparently the active ingredient is the naphthalene, the paraffin and rosin being included as binders or carriers,—but the value of naphthalene as a dog repellent is extremely questionable. Such a product might have some effectiveness in a confined space, but as for having any lasting ability to repel dogs when sprayed in the open air,—its efficacy is doubted. It is obvious that when such a product is used out of doors, the dispersed naphthalene will evaporate quite rapidly.

The above formulas are essentially old-fashioned, home-made attempts at solving the dog nuisance problem and are not to be confused with the branded products. However, they are probably just as effective as some of the products now on the market.

Commercially sold products incorporate a variety of active ingredients, the identities of which are shrouded in secrecy. Each manufacturer has his own "secret ingredient." The branded products are usually retailed in small packages, ranging from ½ oz. to 12 oz. net weight, and retailing from 25 cents to $1.25 a package.

Among those active ingredients which have been used are terpineol, oil of mirbane, mustard oil, synthetic mustard oil or allyl isothiocyanate, various essential oils such as citronella, and numerous other materials. One of the first commercial products to appear on the market is said to have contained synthetic mustard oil as its active ingredient, the oil being in dilute solution in denatured alcohol. This product is said to have been reasonably successful in its action.

THE present trend, however, seems to be toward use of liquids which are alcohol solutions of a mixture of essential oils. In fact, practically all the liquid dog repellents on the market today contain a certain amount of oil of citronella, which is said to have a definite repellent action as far as dogs are concerned. One product which has been advertised extensively, possibly more than any other in the field, is merely a solution of oil of citronella in alcohol. As essential oils are not water-soluble, they are able to withstand the action of rain fairly well, but naturally they will be washed away in time and will disappear through evaporation.

In addition to the liquid dog repellents which are used in hand sprayers, there are also liquid products which are put up in tubes. These tubes are hung up over an area they are supposed to protect, and the tube punctured with a small hole, from which the liquid drips slowly. Still another product of this type consists of a tube containing the active aromatic ingredients carried in a solid paradichlorobenzene casting. When the tube is hung in position and the end is cut away exposing the contents to the air, the para evaporates slowly, releasing the aromatic materials. The released gases being heavier than air,

Uncle Sam Says:

Times change, and we with time,
but not in the ways of Friendship.
To those who have aided in our progress,
and those we hope to serve
We extend the best wishes of the Season.
May our Friendship deepen
and cooperation draw us closer.

Here's To A Happy and Prosperous 1942!

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Urinal Cakes
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Prepared Wax Polish
(Liquid and Paste)

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CRESOLS
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Also REILLY Bonded Roofing and Waterproofing materials for your plant; REILLY CREOCOTE paints for creosoted wood block floors and other creosoted surfaces; REILLY Protective Coatings for structural steel, tanks, pipe lines, water conduits.

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To Serve You

are said to surround the area for a radius of about fifteen feet. It is claimed that this particular tube will give effective protection to the area for about three months.

Repellents in powdered form are generally designed solely for indoor use to keep dogs or cats from damaging, monopolizing, or climbing on furniture. Judging from reports from pet shops, department stores and other outlets for these materials, those in powdered form have not been highly successful. When complaints are received that a product does not work as it is supposed to, the stock answer runs something like this: "Dogs have individual likes and dislikes just the same as human beings. Some people like garlic and some don't. It's the same with dogs. Once in a while we find a dog that doesn't react as he is supposed to. Certain dogs seem to be immune for some peculiar reason which cannot be explained."

Complaints seem to be so common, in fact, that one manufacturer anticipates them by putting the following warning on his product's container: "Some dogs have a defective sense of smell, others are stubborn and while even hating the odor will persist in their bad habits, but in the majority of cases, a dog will in time avoid the place where . . . has been applied." There are a few preparations for indoor use which are in liquid form, but there is a general objection to buying such materials on the part of pet-owners, because of the danger that such liquids might stain or discolor fabrics on which they are sprayed.

The market for dog repellents for outdoor use is potentially much larger than it is at present, and could be developed with skillful merchandising of a really effective product. The greatest demand comes from those with gardens and shrubbery which need protection, and from managers of apartment houses. These buyers are willing to pay almost any price for a dog repellent that really works, but after they have tried several ineffectual products, they become sceptical about claims for the next product they see advertised or displayed. As in many other fields, a few inferior products give a bad name to the entire class including those products that do live up to their performance claims.

Additional research to find new chemicals for dog repellents will undoubtedly discover a number of improvements which can be made. One sanitary supply manufacturer who has been having excellent success with his dog repellent, described it as one of the most profitable items in his line. He bore out the statement that some people will pay almost any price for dog repellents. Some of his jobbers, he said, had sold his product at $10.00 a gallon, although the cost to them was only a small fraction of that amount. As another example, one of the dog repellents for indoor use carries a retail price of $1.00 for three ounces. Apparently the market can be made a profitable one for a product that can be relied on for satisfactory performance.

The Consumer Angle

(*from Page* 109)

The opportunity to know more about the products one buys has been denied to most of the grown-ups of our generation for two reasons. One is the trek away from the home into the business world. The other is the introduction by industry of many new products.

Recently an interesting book —written by a physician was published. He evidently was fed up with notions people have on the subjects of food, health, self-medication, exercise, etc. He called the book "Doctors Don't Believe It. Why Should You?" In it he explodes many of the present day fallacies and points out why they are wrong.

Perhaps someone should undertake to write a similar book in an endeavor to educate consumers on the subject of household products. Such a book should have considerable value particularly at this time, since it is becoming necessary to find new raw materials to take the place of those no longer available.

Because of the shortage of raw materials, our problem today, centers around the maintenance of quality. Also, it becomes more evident that the public must be made aware of changes, particularly insofar as adaptability, performance, durability, and use of products is concerned. The establishment of standards of quality and the creation of yardsticks with which to measure the performance and durability of your products should prove of mutual benefit to manufacturers as well as consumers.

A committee of the National Association of Insecticide and Disinfectant Manufacturers is actively engaged in the development of standards for determining the effectiveness of moth products. Others are contributing to the development of standards and specifications by the Soap Committee—D-12 of the American Society for Testing Materials. These are definite steps in the right direction.

Much more information concerning adaptability, directions for use, potency, and warning disclosures appear on most insecticides and disinfectants than appear on almost any other line of commodities—not even excepting foods and drugs. Many of the other products referred to this afternoon, however, contain relatively little information for the consumer who is interested in getting the greatest possible value at the lowest possible price.

And so in closing let me sum up by saying—

1. Devise means for testing the efficiency, and potency of more of your products.
2. Provide yardsticks to consumers by way of informative labeling so that they may be able to buy intelligently and consume wisely.
3. Help educate consumers to a better understanding of their problems—which after all are also your problems,

and your products will be held up to acclaim regardless of the side of the fence from which they are viewed.

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THE HOLZ-EM APPLICATOR
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American Standard Applicators not only bring the biggest direct profits, but also are the best insurance that your floor waxes and seals will be properly applied.

Don't risk inferior results

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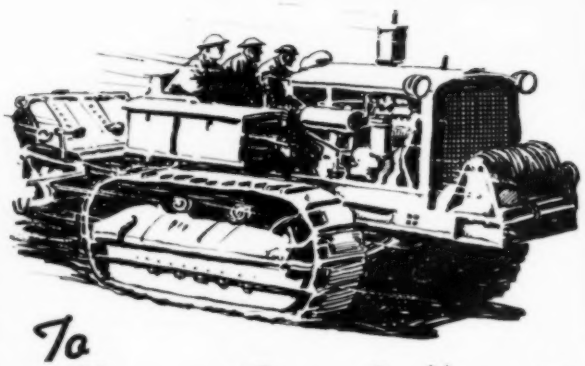

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"Keep 'Em Rolling"

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Cut Down Industrial Hazards By Making Factory Floors Slip-Proof & Sanitary

Sure footing—freedom from worry about slipping is essential in every workshop. It enables workers to give complete attention to the job at hand.

Frequently, falls are serious—particularly when floors are not kept smooth and clean. The rough floor adds to the injury—the dirt and germs which lurk in the crevices of an unfinished floor often cause infection.

Floors properly finished so that the pores of the material are filled to the surface, giving a smooth, "easy to clean", sanitary surface, reduce accident hazards to a minimum—keep workers working.

Correctly finished and properly maintained floors are essential to the protection of America's workers and the American defense program.

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FEDERAL

NEWS...

Matchless Adds to Plant

A permit for construction of a one-story addition to the plant of Matchless Metal Polish Co., Glen Ridge, N. J., was recently approved. The building is to be 40 by 40 feet, of block tile construction. Estimated cost is $5,000.

Hollingshead Expands

R. M. Hollingshead Corp., Camden, N. J., recently acquired a factory building at River Road and State St., Camden, to provide additional space needed to fill defense contracts.

Gage Shell Vice-President

W. P. Gage, manager of the development division of Shell Oil Co., was recently appointed vice-president in charge of manufacturing and technical development of Shell Chemical Co., a subsidiary.

Purax Leases Building

Purax Chemical Products Co. has just leased a one-story, brick building at 268-276 Doremus Ave., Newark, N. J., for the manufacture of disinfectants, polishing waxes and kindred products. The lease includes a frontage on the Passaic River served by a Central Railroad of New Jersey siding.

McCormick Elects New Officers

Paul T. Frisch, assistant sales manager, McCormick & Co., Baltimore, was elected to the board of directors of the company at a recent meeting of the senior board. At the same meeting James Welsh was elected secretary, and Brooke E. Furr was elected treasurer.

DCAT Section Elects Penick

S. Barksdale Penick, Jr., S. B. Penick & Co., New York, was elected chairman of the Drug, Chemical and Allied Trades section of the New York Board of Trade at the December 1 meeting of the newly elected executive committee of the section. Victor E. Williams, Monsanto Chemical Co., was elected vice-chairman; Robert B. Magnus, Magnus, Mabee & Reynard, Inc., was re-elected treasurer; Carl M. Anderson, Merck & Co., was re-elected counsel, and John C. Ostrom, was re-elected secretary. Retiring chairman, John J. Toohy, E. R. Squibb & Sons, Inc., became a member of the advisory council of the section, succeeding James C. Chilcott, Maltine Co.

S. B. PENICK, JR.

N.P.C.A. To Meet at Pittsburgh

The tenth annual convention of the National Pest Control Association will be held at the Hotel William Penn, Pittsburgh, October 26-27-28, 1942. Louis Gatto of Beaver Falls, Pa., has been named as general chairman of the convention committee and Dick Clowes, of Pittsburgh, as local chairman.

New Odorless Deodorant

Oakite Products Inc., New York, has recently developed "Oakite Deodorant No. 1," an odorless preparation for deodorizing and detergent applications. A dry, white, free-flowing powder used in cold water, the material is recommended specifically for use in deodorizing and cleaning washrooms, shower stalls, first-aid rooms, lavatories and locker rooms.

Barrett Co. Becomes Division

Barrett Co., New York, hydrogenated coal-tar chemicals, was recently consolidated with its parent company, Allied Chemical & Dye Corp., to become the Barrett division of that company. There have been no personnel changes or changes of policy, it is said, as a result of the consolidation.

Name Corl to Allaire Post

Cady S. Corl was recently appointed plant superintendent in charge of production for Allaire, Woodward & Co., pyrethrum products, Peoria, Ill. Mr. Corl will continue his sales work in addition to his new duties.

Jack Lawson Naval Flier

Jack Lawson, son of John H. Lawson of Federal Varnish Co., Chicago, topped off his first four months with a naval aviation unit at Corpus Christi, by flying home for the Christmas holidays with his family. He is in training for a commission as an Ensign.

West Co. to Build in L. A.

The Los Angeles branch of West Disinfecting Co., Long Island City, N. Y., plans the erection of a warehouse and sales office with 10,000 square feet of space to replace the accommodations now leased by the company. E. N. Kessler is in charge of the Los Angeles branch.

New Synthetic Pine Oil

A new process for the synthetic production of pine oil from gum turpentine was recently developed by Hercules Powder Co., Wilmington, Del. The synthetic pine oil is said to have substantially the same chemical and physical properties as natural pine oil, and is described as a well-defined mixture of terpenes and secondary and tertiary alcohols

having a mild aromatic pine aroma. It is said to be suitable for making disinfectants, liquid scrub soaps, industrial cleansers, cattle sprays, metal polishes, liquid hand soaps and pine scented bar soaps. Price of the new oil is considerably higher than that of natural pine oil because of the current relatively high prices for gum turpentine. The Hercules company states that the new process will assure an increased supply of pine oil for defense industries and possibly make available some supplies for non-defense uses.

Washburn Adds To Plant

T. F. Washburn Co., Chicago, has completed construction of a one-story addition to their plant at 2244 Elston Ave., and operations in the new section were scheduled to start January 1. The expansion practically doubles previous plant facilities, said Marshall L. Magee, director of sales. The Washburn line of floor treatment products includes gym finishes, floor sealers and waxes.

Polly Varley's Mother Dies

Jack Varley of Baird & McGuire, Inc., St. Louis, and his wife, Polly Varley, regular attendants at N.A.I.D.M. conventions, were missing from the recent New York meeting on account of the death of Mrs. Varley's mother. The Varleys had already reached New York for the meeting when they received the sad news which made it necessary for them to return at once to St. Louis.

Sets Wages Under W-H Act

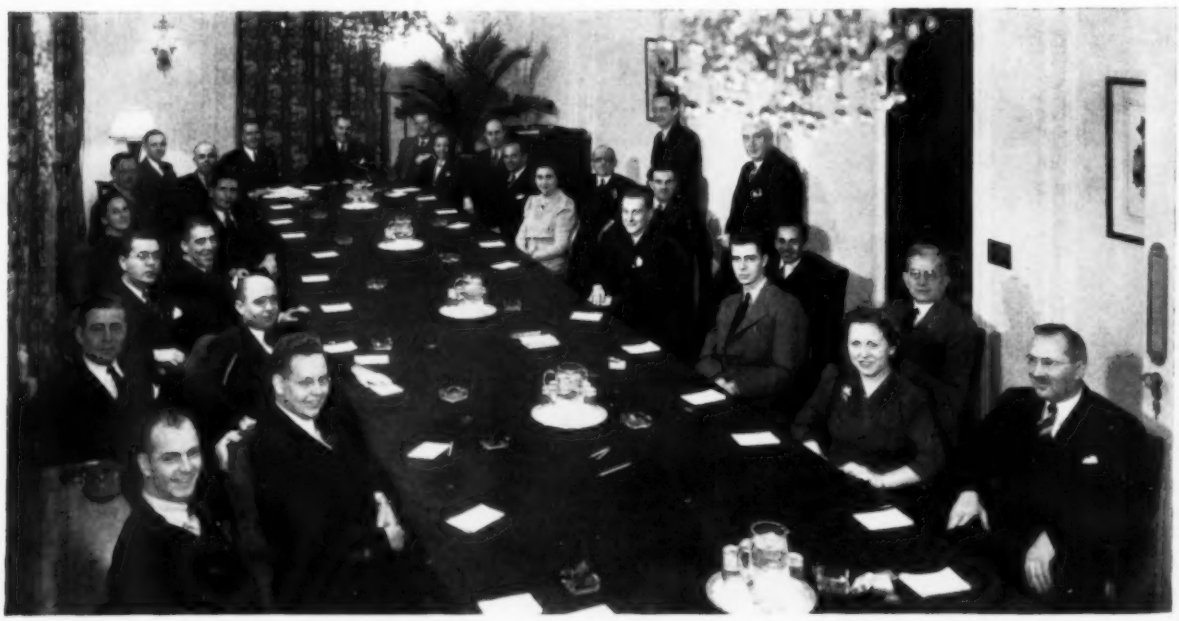
The division of public contracts, U. S. Department of Labor, established minimum wages on December 29 for the chemical and related products industry, including manufacturers of insecticides and fungicides, working on defense contracts of $10,000 or more, under the Walsh-Healy Act. Minimum wages are set at 40 cents an hour or $16 a week of 40 hours for certain specified Southern states, and at 50 cents an hour or $20 a week for the remaining states. For the purposes of the determination of minimum wages, the chemical and related products industry, as defined, includes manufacturers of heavy and industrial, and fine chemicals, insecticides and fungicides, and cleaning and polishing preparations (with the exception of paint and varnish remover, furniture and floor wax and polish, and soap). Southern states in which the 40 cents per hour rate prevails are Maryland, Virginia, North Carolina, South Carolina, Tennessee, Arkansas, Mississippi, Alabama, Georgia, Florida, and the District of Columbia.

American Standard Expands

American Standard Manufacturing Co., Chicago, manufacturer of wax applicators and mops, has just completed a program of modernization and expansion of its production and office facilities after a fire which attacked the plant early in the Fall. Mr. Charles E. Krebs, president of the company, stated that the plant is now running at capacity, and expressed his appreciation of their customers' cooperation during the time the company's usual services were interrupted following the fire. Increased facilities have made it possible to catch up on deliveries in a much shorter time than originally anticipated and resulted in the largest fourth quarter in the history of the company.

Pitner Leaves Agicide Labs

L. E. Pitner has just resigned from Agicide Laboratories, Inc., Milwaukee.



New developments in the insecticide field were discussed at the annual sales meeting of John Powell & Co., New York, held at the Vanderbilt Hotel, November 27 and 28, and attended by some 35 members of the company's home organization. The Broadway musical, "Best Foot Forward," was seen by the group following the two-day meeting.

Memo Charges on Used Drums Above O P A Ceiling Called Valid

THE recent order issued by the Office of Price Administration establishing ceiling prices on used steel drums has been the subject of considerable study over the past month by shippers of soaps and sanitary products. Their problem has been to bring their billing policies into line with the terms of the order, while at the same time seeking to guarantee return of their drums. Many concerns who had not previously done so, now put memorandum charges in excess of the established value of the used containers on their invoices. They emphasize that these charges are only in the nature of a deposit—refunded upon return of the drums—and that title to the drums is retained by them and does not pass to the purchaser of the material.

This last point seems to be the essential one to establish in maintaining the validity of such memorandum charges at levels in excess of OPA ceilings on second hand drums. The OPA has advised several shippers that these memorandum charges are acceptable, and that they do not object to such charges being in excess of established ceilings, provided title to the drums does not pass to the purchaser of the material being shipped. A rather involved situation is created here, it must be appreciated, for if the buyer refuses to return the drum, and payment of the memorandum charge is made, it would be illegal for the drum to be paid for at a figure higher than the established price ceiling.

The OPA schedule fixes a maximum delivered price for reconditioned steel barrels or drums, size 50 to 55 gallons, 18-gauge, of $2.25 each, within a radius of 50 miles from the reconditioning plant. For each 75 miles or fraction thereof in excess of this 50-mile radius, there may be added all actual transportation charges or 10 cents a barrel, whichever is less. In the States of California, Washington, and Oregon, according to the schedule, a further 50 cents per unit may be added to the maximum charges. These ceiling prices may be increased by another 25 cents per unit in cases where the reconditioned drums have been lacquer-relined and baked.

A top price of $1.60 per unit delivered is set for 18-gauge 50 to 55-gallon drums in a "raw," or uncleaned or unreconditioned, state. In the three West Coast States this maximum is raised to $2.00 each. Maximum price that may be charged when a user buys a second-hand standard 50 to 55-gallon drum directly from the person who empties the drum is set at $1.25 f.o.b. the "emptying point." This price may be $1.65 in the West Coast States.

While more than 90 per cent of used drums are of 55-gallon capacity, the entire range goes from 15 gallons to 110 gallons, light or heavy gauge steel. To cover these other sizes, the schedule stipulates that maximum delivered prices shall not exceed 80 per cent of the base price of new, black, hot-rolled steel barrels or drums of the same type and size, when delivered in carload lots. The same transportation premium as applies to 50 to 55-gallon containers is provided for all other sizes. "Raw" drums of sizes other than 50 to 55-gallon, 18-gauge, shall not sell for more than 65 cents less than the maximum prices set for reconditioned drums of the same size and type, according to the schedule.

Every person buying or selling used steel barrels or drums is required to keep detailed records for inspection by OPA and to submit such reports as OPA may require from time to time.

CARE OF ELEVATOR FLOORS

The abuse given elevator floors makes the maintenance of these surfaces one of the most acute problems faced in the upkeep of the average public building. A special maintenance program to meet the problems of heavy traffic, scuffling, tracked in grit and wet weather is outlined in an article by Richards Jarden scheduled for an early issue of SOAP AND SANITARY CHEMICALS.

PCO's Meet at Purdue Jan. 5-9

A varied program on pest control subjects is scheduled for the sixth annual, P. C. O. conference at Purdue University, Lafayette, Ind., January 5-9. Professor J. J. Davis and the entire staff of the entomology department of Purdue will participate in the program as will entomologists from other leading universities. The five-day meeting will include the following features: fundamentals for those attending the first time or who wish to review the principles of insect life and insect control; classes in insect classification and identification; demonstrations of practical operations; discussions on termites and wood-attacking fungi; fumigation procedures; symposiums on priorities, substitutes, etc.; an address by Dr. Gable of the Purdue biology department on "Arthropod Pests and Their Relation to Disease"; discussions of insects including the brown dog tick, box-elder bugs, bees and Polistes wasps, and a forum on rats and mice. For the evenings special attractions have been scheduled including a basketball game, pest control movies, discussion of advertising and public relations, and the annual banquet the evening of January 8. Entire fee for the conference is $5.00.

Sets Paraffin Price Ceiling

A price ceiling on paraffin wax, crude scale, semi-refined, and fully refined, became effective December 1, through order of the OPA. Maximum prices vary according to grade and melting point.

CRESYLIC ACID — FORMALDEHYDE

AROMATICS

Phenyl Ethyl Alcohol	Phenyl Ethyl Acetate
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Acetophenone	Benzyl Acetate
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Write for samples, prices and full information.

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2450 CANAL ROAD
CLEVELAND, OHIO

Assign Insecticide Priorities

Special priority ratings have been given to a list of several hundred manufacturers of agricultural insecticides, fungicides, disinfectants, etc., in a preference rating order No. P-87 issued last month by the OPM. There has been considerable confusion regarding the concerns given preferred treatment, particularly so since the list of names has not been made public.

The materials covered by P-87 were defined as follows:

"Chemicals or mixtures of chemicals to be used for the following purposes, provided they are in connection with the production of food:

(1) Spraying, dipping, dusting or fumigating domestic animals, seeds, tubers and bulbs, growing plants, stored products and buildings for the purpose of controlling destructive insects, fungi and bacteria.

(2) Disinfecting soil, farm buildings, dairy implements and machinery, cattle and poultry cars."

The order is applicable only to primary producers and any firm that is a primary producer can qualify under the following conditions:

(1) It must be substantially engaged in the manufacture of a chemical or chemicals used as insecticides, fungicides or disinfectants necessary for producing foods.

(2) It must be a primary chemical producer, not a mixer or a compounder.

(3) It must also be a distributor.

Anyone who can thus qualify will get an A-10 rating. Those having A-10 ratings must see that their output goes primarily to mixers or compounders who are producing items for crop and other farm purposes directly connected with food. Melvin Goldberg has been assigned the task of administering the order.

Eastern PCO's Meet Jan. 12-14

The second annual pest control operators' conference will be held at Massachusetts State College, Amherst, Mass., January 12-13-14. Attendance will be limited to 75 persons. The annual banquet is to be held the evening of January 13. Registration for the three-day meeting is $6.00.

Sets Ceilings on Waxes

Action to prevent further rise in the prices of carnauba, beeswax, candelilla and ouricury waxes was taken Dec. 26 by Leon Henderson, price administrator, OPA. Mr. Henderson requested that no sales of the waxes named be made at prices higher than the f.o.b. New York prices prevailing Dec. 18. The four waxes named are said to comprise 96 per cent of the vegetable waxes sold in the United States.

PCO's To Meet at L. S. U.

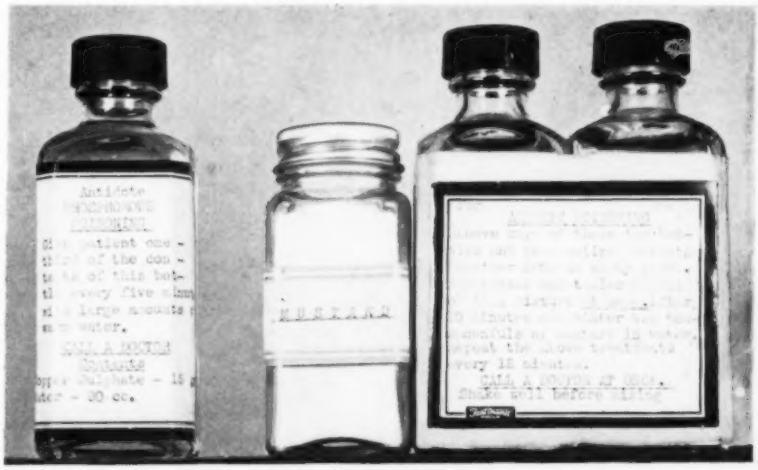
The fourth annual southern pest control operators' conference will be held at Lousiana State University, University, La., January 26-27-28.

Poison Antidote Sets

Combinations of poison antidotes arranged in sets of four bottles for wide distribution to be used as a quick aid in case of arsenic or phosphorus poisoning, have been suggested by Charles Opitz, president of John Opitz, Inc., Long Island City. He suggests that in addition to the presence of the usual antidotes in first-aid cabinets, that these compact combination sets should be made up and carried in the service bags of all pest control operators as well as being widely distributed around all plants and other places where accidental ingestion of these poisons is likely.

The advantage of this type of set, according to Mr. Opitz, is its readiness for instant use. The antidote for arsenic poisoning is made up of two bottles taped together so that the contents may be emptied into a glass in one operation. In one bottle is a dilute solution (a half-gram in 100 cc of water) of ferric chloride. In the other is one gram of magnesium oxide in 100 cc of water. Upon mixing, they form iron oxide, a standard antidote for arsenic. The mixture must be made up fresh at time of use which accounts for the separate bottles.

The phosphorus antidote is 15 grains of copper sulfate in 90 cc of water, one-third of which is to be given every five minutes with large amounts of warm water. The mustard which forms part of the set is for the usual emetic purposes in treatment of poisoning. On the labels are given the usual poisoning instructions to call a doctor at once. This suggested quick-aid combination is for treatment of the most common forms of poisoning in pest control work. John Opitz, Inc. have prepared a complete poison antidote chart for the pest control industry, copies of which may be obtained from them at 50-14 39th St., Long Island City, N. Y.



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Extraction of Pyrethrins

Toxicity tests on *Tribolium castaneum* showed that the ether extract, obtained after a previous 5½ hour extraction with petroleum ether, from *Chrysanthemum cinerariaefolium* had no toxic effect. However, with *Aphis rumicis*, which are more susceptible to pyrethrum, the ether extract at high concentrations did have a toxic effect. Ninety-five per cent of the toxic material was extracted from these flowers after a 3 hour percolation with petroleum ether. For analytical procedures an extraction period of 8 hours with this solvent is suggested.

Colorless extracts were obtained by mixing the flowers with charcoal before extracting with petroleum ethers. A comparison of the pyrethrin contents of the flowers given by direct petroleum ether and chloroform extraction showed a slightly higher value for pyrethrin I by the chloroform extraction and an appreciably higher figure for pyrethrin II. In a procedure for obtaining a colorless concentrate of pyrethrins, the petroleum ether extract from a mixture of the flowers and charcoal was treated to give a pale yellow oil containing 78 per cent of total pyrethrins. The concentrate was obtained by dissolving this oil in petroleum ether, slowly running the solution through a column of charcoal, washing the column several times with petroleum ether, and then percolating ether through the column. The oil from the ether extraction contained 93 per cent of total pyrethrins. J. T. Martin. *J. Agr. Sci.* **31,** 178-85 (1941).

Monograph on Insecticides

A monograph edited by H. J. Holman and published by The Imperial Institute, London, contains 155 pages of description and discussion of insecticidal materials of vegetable origin. Errors in evaluation, it is pointed out, are introduced by sampling, and by the fact that plants of different genera contain more than one active principle of closely related structure, but of differing toxicity, while the insecticidal effects depend on the species of insect used for the test.

None of the various chemical or physical methods of evaluation of rotenone-containing plants is completely satisfactory. The correlation between analytical methods and toxicity to selected insects has been found to depend on whether the roots were the same or not. To base evaluation of toxicity solely on rotenone content might lead to serious underestimation of the value of some species of derris, notably *D. malaccensis;* with *D. elliptica* the error would be less. None of the *Tephrosia* species so far examined is as rich in toxic constituents as commercial derris or *Lonchocarpus root.*

In the discussion of pyrethrum it is noted that the pyrethrins appear to act as nerve poisons, but that relative toxicity of pyrethrins I and II varies considerably with different species of insects; the former is considered the more toxic, the latter to have a greater knock-down effect. *Analyst* **66,** 418-9 (1941).

N.A.I.D.M. Convention

(*From Page* 96)

members of this association be informed of the difficulties arising out of shortage of raw materials. The fact should be pointed out to the consumers that the health front at all times is essential and the availability of disinfectants and insecticides is necessary to protect the health of the entire nation.

(5) RESOLVED that the association reiterate its stand against the use of the association seal or any seal or design carrying the name of the association, on any package, that might be interpreted to carry the official approval of the association.

(6) RESOLVED that it is the wish of the association to thank the Bureau of Entomology and Plant Quarantine, as well as the Agricultural Marketing Service, for being helpful in stimulating the close relationship between industry and government, and we hope that this relationship will be continued, and further, that a letter from the association be sent to the Department of Agriculture expressing the appreciation of the association for the cooperation which has been given in the past and the hope that the department will see fit to provide adequate appropriation so that these members of the department's bureaus may continue to work with the association for the mutual benefit of the department and the industry.

(7) RESOLVED that the Insecticide Scientific Committee be continued and provision made for a sub-committee covering cattle sprays and another sub-committee covering moth-proofing.

(8) RESOLVED that the newly elected president meet the chairman of each present committee and discuss the future personnel of these committees, realizing that the present emergency calls for clear thinking and willing workers.

(9) RESOLVED that the secretary extend our thanks to Mr. A. M. W. Carter, Dr. A. O. Shaw, Mr. E. Freedman, Dr. D. P. Morgan and other speakers for making this program most successful.

(10) RESOLVED that the association express to Dr. Jared H. Ford its appreciation for his splendid cooperative effort and for the articles which he has written. In leaving our industry we wish him much good luck and we wish to record our deep appreciation in this manner.

(11) RESOLVED that the selection of a place for the annual and semi-annual meetings of the association be left to the discretion of the Board of Governors and that the necessary procedure be followed to incorporate this provision in the by-laws of the association.

The convention closed with a cocktail party and informal beef-

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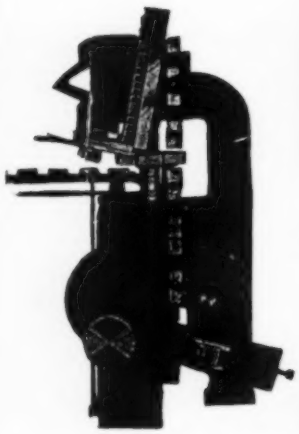

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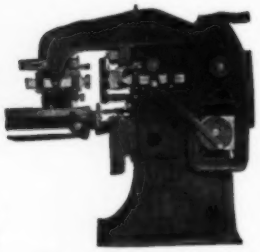

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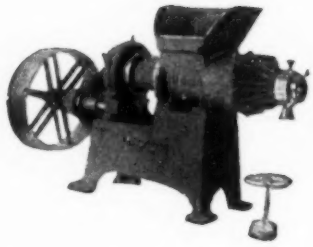

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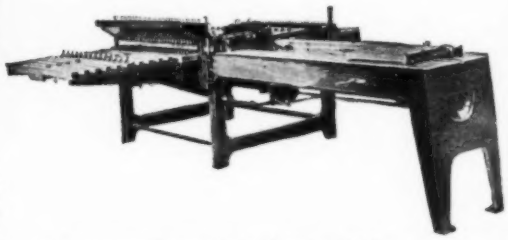

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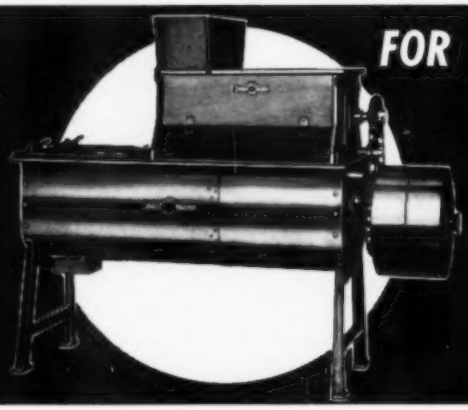

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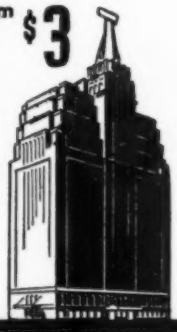

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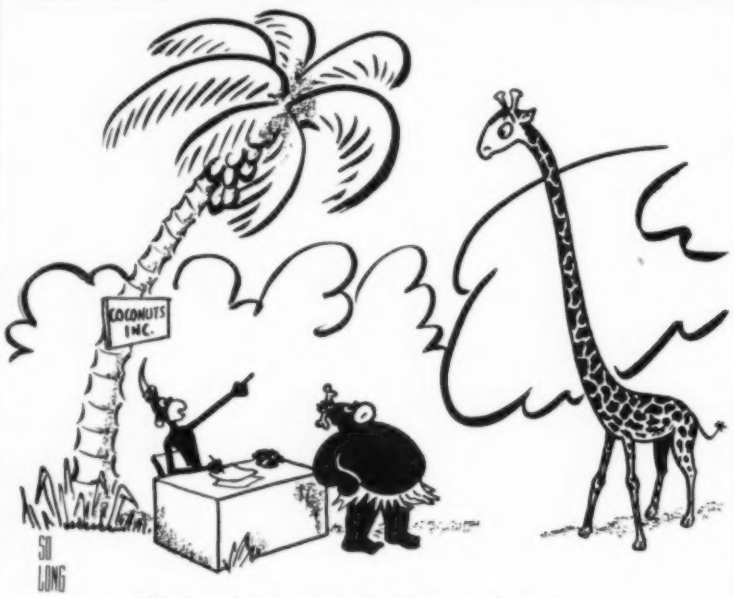

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Tale Ends

GLYCERINE. — Grapevine reports from Washington have it that those in official circles who really know the ins and outs of glycerine production, supplies, and markets now feel that the 11½-cent ceiling on crude was set too low. It would not be surprising to see this moved up to a figure approximating 13½ cents.

* * *

One potash soap manufacturer has sent a warning to jobbers not to push the sale of any coconut oil soaps, but to do everything possible to stretch out present supplies. In view of the uncertainty of raw material, this appears to be good advice.

* * *

And still on the subject of coconut oil soaps,—what can the shampoo trade, that is beauty salons and bottlers, use in place of coco soaps either in whole or in part? Maybe some more thinking in this direction should be done right now.

* * *

By the grace of heaven, American supplies of pyrethrum today come wholly from Kenya Colony. The insecticide industry may be thankful that right now Japan is no longer the chief source of pyrethrum flowers.

* * *

May we suggest if you have received a subscription renewal bill that you send in your check pronto? In these hectic days, you will certainly not want to miss any single issue of *Soap and Sanitary Chemicals*,—not to mention the 1942 *Blue Book* to be sent to all subscribers in a month or so.

* * *

And in conclusion, let it be said that the effect of priorities on civilian material needs under the heretofore defense program is likely to be but child's play alongside of allocation of materials by a nation at war!

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A Water Soluble Methyl Cellulose

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Germicide, Industrial Preservative and Enhancing Agent

SPECIFICATIONS

Appearance: Light yellow, semi-crystalline mass

Specific Gravity: 1.088—1.098 (55°C./55°C.)

Refractive Index: 1.579—1.589 (55° C.)

Crystallizing Point: 40° C minimum

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